UNIV OF UTAH
LIBRARY

## "OUR FIRST DIESEL HAS SAVED $11,866.00 ON FUEL ALONE IN 18,540 WORKING HOURS"

—REPORTS H. P. GARIN!

"We farm a large acreage to fruit and vegetables on the Pacific Coast," reports H. P. Garin, President of the famous producing and distributing company that bears his name.

"Our first 'Caterpillar' Diesel Tractor, purchased 3½ years ago, has now operated 18,540 hours—and by direct comparison with gasoline tractors of equal horsepower, this Diesel has saved us $11,866.00 *on fuel alone.*

### "I CHECKED THE RECORDS"

"To maintain the carefully controlled cultivation we require, our tractors—*whole fleets of them*—must be able to work twenty-two hours out of twenty-four hours for weeks at a time.

"So we've tested them all—checked acre costs—watched how they handled on sand, mud, dust and hillsides. Upkeep, 'time-outs' and fuel costs were double-checked. *When we added the score 'Caterpillar' track-type Tractors won conclusively.*

"That's why we now operate a fleet of 52 'Caterpillar' track-type Tractors."

You who need modern orchard power, *"Check the Record"* now! Check it with fruit-growers using "Caterpillar" Power, to find the lowest operating costs *anywhere!* Check it in your own orchard to find the sure-footed power that does every job on time—the way you want it done!

# CATERPILLAR

REG. U. S. PAT. OFF.

TRACTOR CO. • PEORIA, ILL.

DIESEL ENGINES—TRACK-TYPE TRACTORS—TERRACERS

CATERPILLAR TRACTOR CO., Dept. A-81, Peoria, Illinois

Gentlemen:
Can I use a "Caterpillar" track-type Tractor profitably in my orchard?

Size of orchard _____ Power now used _____

Name _____ R. F. D. _____

Town _____ County _____ State _____

University of Idaho
LIBRARY
MOSCOW, IDAHO

# STRAIGHT TALK ABOUT SPRAYERS

WHEN YOU BUY a spray outfit you make a substantial investment and you can't afford to make a mistake.

It's not just the first cost that counts: it's the kind of service you get out of your sprayer, the care you have to give it, the cost of operating, and the serviceable life of the outfit that counts most.

The BEAN is built right . . . from the ground up. All steel from end to end. Extra ruggedness, extra strength all the way through. It's built for long hard service; ask the grower who owns one.

The BEAN Royal Pump is the simplest, and most dependable spray pump ever designed. *Fewer parts to watch. Fewer parts to wear.* Automatic lubrication with all working parts continuously bathed with *clean* oil. Big over-sized eccentric instead of an ordinary crankshaft. Friction-less ball and roller bearings throughout. Porcelain-lined cylinders, and many other time-saving, trouble-saving, money-saving features.

Sizes and models to suit every grower.

**BEAN ALSO BUILDS A COMPLETE LINE OF DUSTERS, CLEANERS AND WASHERS**

*See your nearest* BEAN *dealer or write direct to us for complete* BEAN *catalog*

**BEAN FULL-ARMORED ROYAL SPRAYERS**

JOHN BEAN MFG. CO. Division of Food Machinery Corporation
Homer St., Lansing, Michigan · 104 West Julian St., San Jose, California

*Please send your 1938 Sprayer Catalog to:*

Name

Address

Kind of Fruit

No. of Acres

University of Idaho LIBRARY MOSCOW IDAHO

# IT'S NEW! IT'S GOODYEAR

# IT'S A TRIUMPH IN TRACTION

IT'S A TRIUMPH in traction that Goodyear offers you in the latest, greatest tractor tire it has ever developed—the sharp-lugged, deep-biting, husky new Goodyear Sure-Grip.

Goodyear has put everything at its command into the development and construction of this tire—the hard-won experience of millions and millions of tractor miles on farms.

You'll know as soon as you lay eyes on those high, tough lugs, that they're built to find bottom anywhere and push through without slip or spin—a triumph in traction!

You'll see at a glance that the wide-open tread and the tapered lugs are soundly designed for thorough self-cleaning.

Then, as you study the tire, you will realize that the overlap of the lug bars is more than ample to give long wear and smooth riding on hard surfaces.

The pitch and the spacing of these lug bars, set after months of experiment with many different angles, are scientifically correct for maximum pull.

The body of the tire is another feature—one which you cannot see. This great brute of a body is built of Goodyear's patented Supertwist Cord. As a result it has greater strength, greater ability to absorb shock, greater power to "come back".

To top off this great new tire, Goodyear uses more and specially-treated rubber in the tread for longer wear and permanently sharp, biting lugs.

Goodyear invites your inspection of this new Sure-Grip, the hardest-pulling, fastest-working tractor tire ever built for tough going—a burly companion for the Goodyear All-Traction Tractor Tire famed for its efficiency in sand, loose soil or cover crops.

You now can buy these tires on special winter terms more liberal than ever before offered. You pay no carrying charges in the winter months.

See your Goodyear dealer or implement dealer now—examine the new Sure-Grip.

**If you have ordered a tractor or plan to buy one, insist that it come to you on Goodyear Tractor Tires.**

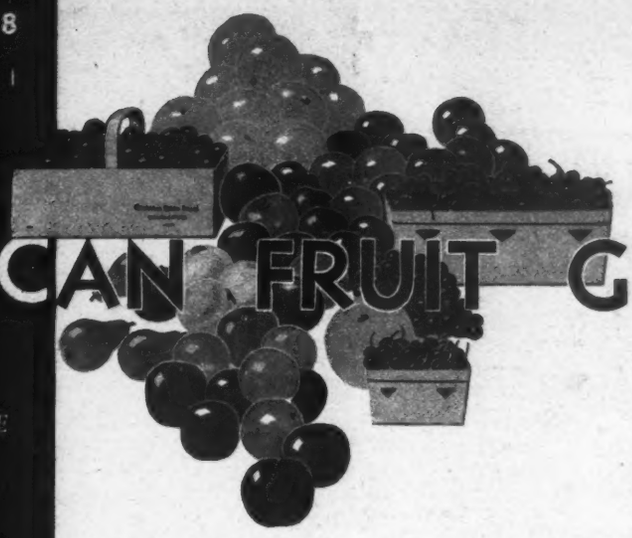
THE GOODYEAR TIRE & RUBBER COMPANY, INC., AKRON, OHIO

Goodyear Builds the World's Most Complete Line of Farm Tires—a Type for Every Purpose. Left to right—Sure-Grip Implement Tire, Ribbed Front Wheel Tractor Tire, Cane and Rice Field Special, All-Traction Tractor Tire.

GOODYEAR

MORE FARM TRACTORS ARE EQUIPPED WITH GOODYEAR TIRES THAN ANY OTHER KIND

JANUARY 1938
VOL. 58 NO. 1



# AMERICAN FRUIT GROWER

*The*
*NATIONAL FRUIT MAGAZINE*

## CONTENTS

Cover Photograph
Burgert Bros., Tampa, Fla.
The Citrus Industry in the Lone Star State 7
By J. F. Rosborough
Progress in Small Fruits 8-9
Developments in Strawberry Culture and Breeding 8
By George M. Darrow
Red and Black Raspberries—Varieties and Culture 9
By A. S. Colby
Personalities at APS Meeting 10
A Doctor Dissects an Apple 13
American Pomological Society 14
A Page Conducted in the Interests of the Society
State News 18
Calendar of Coming Meetings and Exhibits 25
Nut Varieties for St. Paul Area 28
New Time and Money Savers 29
By Handy Andy
Successful Orchards 30
A "Round Table" Page for Every Grower

AMERICAN FRUIT GROWER
Published Monthly by
AMERICAN FRUIT GROWER PUBLISHING CO.
1370 Ontario St., Cleveland, O.

E. G. K. MEISTER
Publisher

DEAN HALLIDAY, Managing Editor
DR. J. H. GOURLEY, Associate Editor
E. A. KRAUSE, Associate Editor
WILLIAM H. ZIPF, Field Editor
J. TALBERT, Contributing Editor
MARY LEE ADAMS, Home Economics Editor

BRANCH OFFICES
and Representatives
NEW YORK CITY, Room 1212, 30 Rockefeller Plaza. Phone—Circle 7-1863.
ROGER FISON, Eastern Manager.
CHICAGO, 123 W. Madison St. Phone—Central 0465.
J. C. BILLINGSLEA CO.

SUBSCRIPTION RATES
Domestic Except Cleveland, 3 years $1.00. 1 yr. 50c. Cleveland and foreign (except Canada) $1.00 per year. Canada, 50c per year.
Entered as second-class matter at Post Office at Cleveland, Ohio, under the Act of March 3, 1879. Additional entry at Mount Morris, Illinois.

## RAILROAD AHEAD—OBSERVE CAUTION

THE cost of operating the railroads has increased to the point where a greater income is necessary to maintain service. That means rates on nearly all commodities will have to be increased. In the process of readjusting rates the fruit industry must be vigilant and insist upon an equitable increase. It is useless to oppose a rate increase and fruit growers will gain more by co-operating in the present problem of the railroads.

Foods are a vital factor in the cost of living. Increasing the cost of living works a serious hardship on those who can least afford to pay for food. Fruit as a food should receive special consideration, but if a slight increase is necessary, caution should be observed in applying it to certain fruits or the present economic balance will be destroyed.

The railroads and the fruit industry have grown up together. Together they extended the frontiers of commerce and agriculture. Their co-operation quickened the development of remote areas of the country. They have helped one another. Today, despite the use of motor trucks for short hauls, the fruit industry annually ships nearly 500,000 carloads of fruit by rail.

Prosperous railroads are essential to a prosperous America. This is as true today as it was 20, 30, 40, and 50 years ago when the railroads were helping this country to overcome its growing pains. Prosperous railroads mean stable employment, directly and indirectly, for millions of workers, substantial tax payments, real contributions to genuine business recovery—spread throughout every State and almost every county in the Union.

On the other hand, it is also essential that the fruit industry be kept prosperous. Now grown to a BILLION DOLLAR INDUSTRY it, too, is nation-wide in scope. And great parts of this vast industry are dependent upon the freight service furnished by the railroads. An exorbitant increase in freight rates will strangle certain fruit centers of this country just as surely as too little revenue will eventually turn the railroads into worthless streaks of rust.

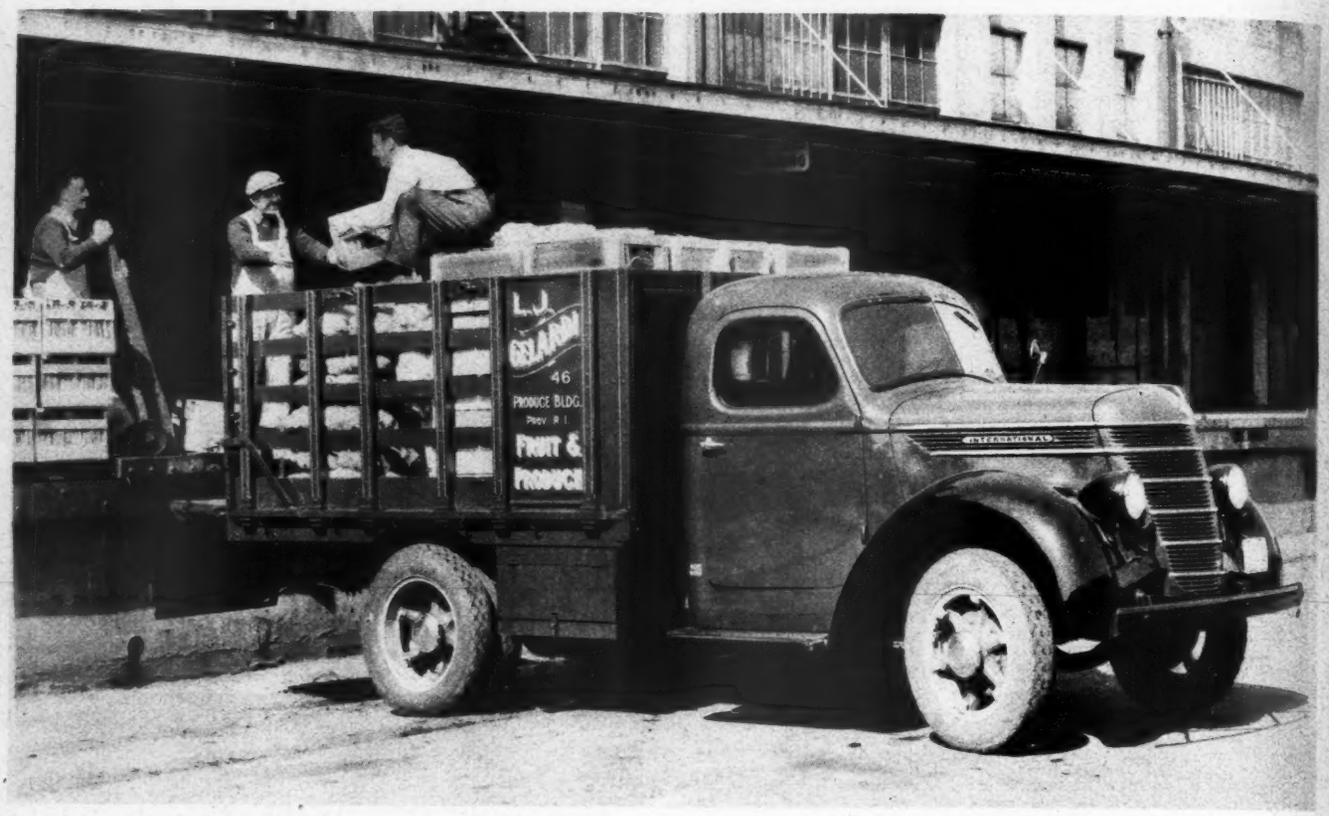
There is justice in the appeal of the railroads to the American public for help, and it is common sense to say, "Don't set the brakes!"

But in helping one important industry, the fate of still another important one must not be ignored.

In clearing the tracks for the railroads, CAUTION MUST BE OBSERVED —a slogan the railroads themselves inaugurated.

# INTERNATIONAL TRUCKS

## *Give You Extra Value*




*International Model D-30 stake truck at the warehouse—loaded with fruit and vegetables.*

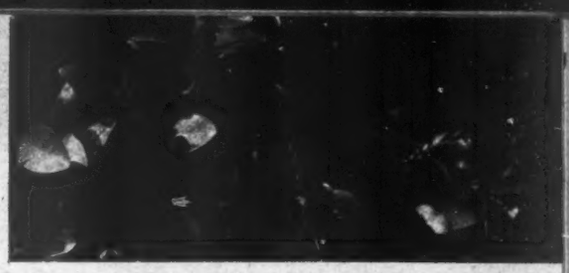
It's the extra value in International trucks that makes them favorites for farm, grove, orchard, and vineyard hauling jobs. Extra value that means savings in every mile of travel, extra value that comes with improved engineering and mechanical features.

If you use a truck for deliveries, the extra smartness of the new Internationals is another plus-value that will appeal to you. These sleek, streamlined trucks are traveling advertisements of your business and the products you sell.

These distinctive International trucks range in size from the half-ton to one-ton light delivery units up to powerful six-wheelers. See the new Internationals now at the nearest International branch or dealer showroom.

**INTERNATIONAL HARVESTER COMPANY**
*(Incorporated)*
180 North Michigan Avenue Chicago, Illinois

**INTERNATIONAL TRUCKS**



# CITRUS INDUSTRY IN THE LONE STAR STATE

By J. F. ROSBOROUGH
Agricultural and Mechanical College of Texas

LESS than 50 years ago the Rio Grande area was a vast brush-covered dominion. The major business activity of the population was the dislodging of wild steers from the subtropical jungle. It was also necessary to give considerable attention to thwarting the vigorous efforts of cattle thieves. Most of the population were Mexicans with a few scattered Americans who were in the main ranch foremen or in charge of ranching activities.

This territory of approximately 3000 square miles stretches along the Rio Grande River from Point Isabel northward for 70 miles. It is nearer the equator than any other section of the United States, except the most southern tip of Florida. In its native state it was a region of dense growth of mesquite, ebony, huisache, and prickly pear. The soil is level alluvial silt of unusual fertility. The climate is mild, with an average temperature of 60 degrees F in January and 89 degrees F in July. The annual rainfall is about 28 inches, the major portion of which falls between May and October. A strong sea breeze blows most of the time.

Except for a few seedling orange trees growing at old ranch sites, there was no suggestion in 1900 that this region would in a few years become one of the largest citrus producing sections of the world. The coming of the railroad to the Rio Grande Valley in 1904 paved the way for later developments. It was not until 1915 that the first commercial planting of some 300 acres of grapefruit and oranges was made by John Shary of Mission. The first carload of citrus fruit was shipped north in 1921. During this period of 22 years since the first commercial planting was made, 7,026,553 citrus trees have been set out on 102,691 acres of Rio Grande Valley soil. Of the total number of trees now planted, there remains only a half million trees yet to come into commercial production. (Trees over four years of age are considered as commercial producers of fruit.)

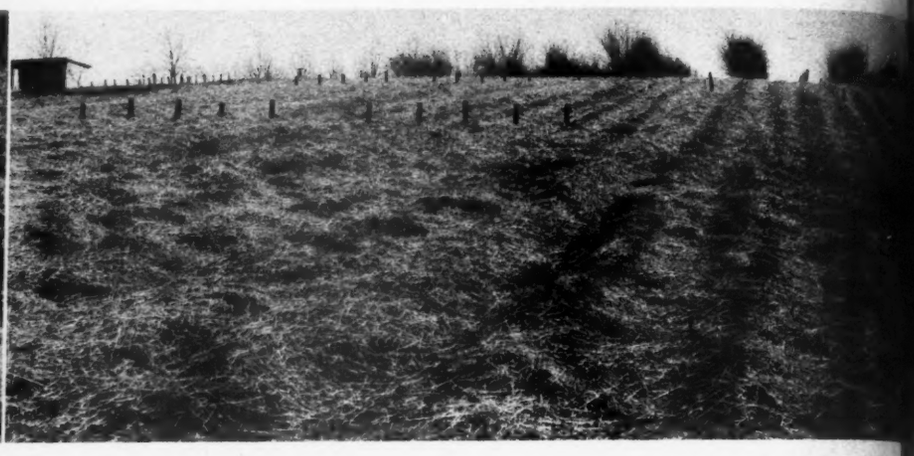
Most of the early plantings were largely grapefruit. Marsh Seedless, a variety of extra quality, was the choice among these plantings. Today this variety makes up at least two-thirds of the total number of all varieties grown in this section. Duncan, a variety of good quality but handicapped by numerous seed, was the second choice. This variety is now used largely for juice pur-

*(Continued on page 20)*

Right—Tree laden with Marsh Seedless grapefruit, the leading variety grown in Texas. Photograph courtesy Rio Grande Valley Citrus Exchange. Below—Sesbania, a green manure crop, is used in the valley to maintain soil fertility.

# PROGRESS IN

**Presented on this page is a digest of the talk given by Dr. George M. Darrow at the American Pomological Society convention held recently in Springfield, Mo. Dr. Darrow is a veteran small-fruit worker of the U.S.D.A. and is especially well known for his research and investigations with strawberry breeding and cultural operations.**



Corner illustration shows the Fairfax strawberry, a U.S.D.A. introduction. Above, left, is a strawberry planting showing well-matted rows, aiding in protection against low-temperature injury. Above is shown a strawberry field mulched with wheat straw. About three tons to the acre does a good job of straw mulching.

# DEVELOPMENTS IN STRAWBERRY CULTURE AND BREEDING

By GEORGE M. DARROW
Senior Pomologist, U.S.D.A.

SINCE last winter the New Jersey Experiment Station has named and released one new strawberry; the Connecticut Experiment Station is testing widely three sorts, and the Canadian Station at Ottawa has named eight—Borden, Claribel, Howe, Jim, John, Louise, Simcoe, and Wright. Of these Borden, Howe, Jim, and John are reported as medium early, Simcoe and Wright midseason, and Louise and Claribel late. So far as known these have not been tested in the United States.

The Pathfinder (N.J. 35) is an early, showy, productive, large, bright red variety which is too subject to leaf spot and not firm enough to be recommended for Maryland, but which is firmer and less affected by leaf spot in central New York and Michigan, and is worthy of trial in Missouri. It is of only fair quality.

Of the Connecticut varieties, Connecticut 153 has so far been resistant to leaf spot, is large and showy, is large to the end of the season, is productive, and has good quality. It is worthy of trial. Another variety, Connecticut 282, is of the Howard 17 or Premier type and, for those interested in that type of berry, is worth testing.

More than 10 years ago a yellowing showed up in the Howard 17 or Premier in New England. Substitution of another stock of this variety was found to be an entirely satisfactory control measure. Recently this yellowing has shown up in the stocks of Howard 17 throughout New York, and substitution of non-yellowing stocks should be a feasible method of control.

The Blakemore has Howard 17 as one parent and has inherited the trouble from its parent. Some five years ago, some plants of the Blakemore started turning yellow, and now this is a serious trouble of the variety in all sections of the United States where it is grown.

For two years we have had two stocks of the Blakemore in adjoining rows at Beltsville, Md. In one row set with unselected stock, 88 of the 100 clons (mother plants and runners) have already turned yellow. In contrast in the adjoining row set with stock that has remained green for nine years at Albany, Ga., only two clons out of 350 seemed to be yellowing this fall.

Several thousand plants were propagated from the second row in 1936 and sent to nurseries. Although not all plantings have been surveyed, nine yellowing clons out of some 3000 in Maryland and Delaware, 15 out of 600 in Illinois, and 15 out of 1000 in Virginia have been observed or reported to have started yellowing. The rate of appearance of yellowing in the Albany stock so far is not sufficient to be a serious field problem.

Paul H. Millar, chief inspector for the Arkansas Plant Board, has reported finding a stock of Blakemore in Arkansas that had remained free of yellows. In 1936, sixty new fields

*(Continued on page 26)*

# SMALL FRUITS

**Through numerous bulletins he has written on small fruits, Dr. A. S. Colby has become a popular authority on this subject. His observations and researches made him well fitted to present talks concerning latest bramble information before the American Pomological Society convention. One of the convention talks is reviewed on this page.**

**The recently introduced Taylor red raspberry is shown in upper right-hand corner. Right, above, are two containers of Newburgh raspberries, a New York Experiment Station introduction. Above is a mixed planting of Newburgh, Chief, and Latham raspberries. The latter is the well-known Minnesota introduction.**

## RED AND BLACK RASPBERRIES—VARIETIES AND CULTURE

By A. S. COLBY
University of Illinois

CULTIVATED raspberries of North America are usually divided into three groups—reds, blacks, and purples

Environmental conditions which prevail in the native home of the species must be duplicated if cultivated varieties of that species are to be grown profitably under domestication. For example, the wild red raspberry, a native of the North, is one of the hardiest of our fruits and succeeds best in northern regions. When its culture is attempted south of its natural habitat, it is more difficult and expensive to maintain profitable plantations.

Purple canes are hybrids between the reds and blacks. In this group, wide variations are found in hardiness and other characteristics—some forms more closely resembling the red and some the black parent.

European red raspberries were introduced into this country early in the 1800's. The red Antwerp was one of the best known in 1806. More attention was paid to their culture than to the selection and improvement of the native reds. It is probable that, if the species had proved healthy and hardy when introduced, there would have been less incentive for improving those already here. Since this foreign species was not found hardy in eastern North America, it has long since been replaced, except on the Pacific Coast where Antwerp is still grown to a slight extent.

Notable among early workers was Dr. William D. Brinckle, a physician of Philadelphia. Dr. Brinckle was a leader in American pomology between 1825 and 1863, serving as president of the Pennsylvania Horticultural Society and as vice-president of the American Pomological Society. He will be remembered by small-fruit culturists because of his pioneer work in breeding raspberries and strawberries. The Orange raspberry, originated by him in 1845, was for many years a standard commercial variety.

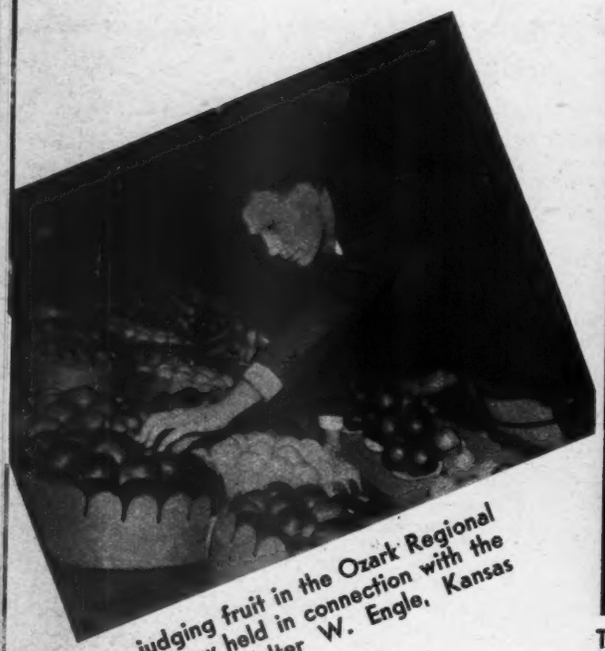
The Ohio Everbearing black raspberry, a chance seedling found by Nicholas Longworth of Cincinnati in 1832, was probably the first named variety of that species. Black raspberry culture, however, did not become popular at that time because of the difficulty experienced in propagating the plants. Division was the only method known.

When H. H. Doolittle of Oaks Corners, N.Y., introduced the Doolittle variety in 1850, it was a milestone in black raspberry history; not so much because of the value of the variety, but because Mr. Doolittle had discovered that blackcaps could be propagated by tip layering.

Red raspberry culture probably received its first impetus with the introduction of the Cuthbert, a chance seedling found by Thomas Cuthbert of Riverdale, N.Y., about 1865. Dr. George M. Darrow of the U.S.D.A. states that this variety is probably a cross of Hudson River Antwerp with a wild native red. He also makes

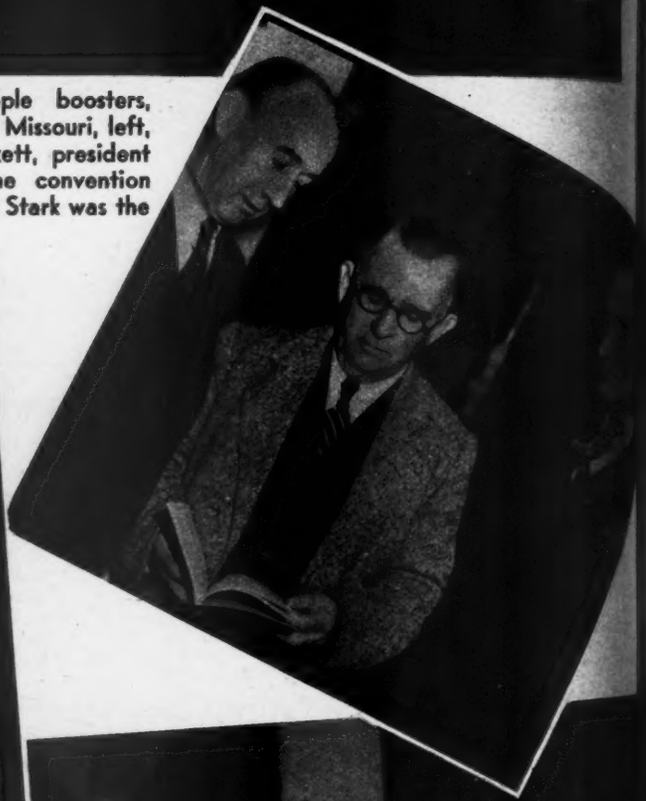
*(Continued on page 27)*

# PERSONALITIES AT APS MEETING



Busy judging fruit in the Ozark Regional Apple Show held in connection with the meeting is Walter W. Engle, Kansas City, Mo.

Two confirmed apple boosters, Gov. Lloyd Stark of Missouri, left, and Prof. B. S. Pickett, president of the APS, at the convention banquet where Gov. Stark was the principal speaker.



Above, right—Three Arkansas fruit growers, all from Springdale, are, from left to right, B. B. Brogden, S. T. Cantrell, and Paul Brogden.

Above, left to right—Meck Brazelton, Troy, Kans.; Glen F. Wallace, Nashville, Ark.; George W. Kinkead, Topeka, Kans., and S. A. Perrine, Centralia, Ill.

Right, left to right—Missourians C. M. Williams, Forest City; Otis Montgomery, Marionville; C. F. Hiemeyer, Lexington, and W. R. Martin, Columbia.

# *Before They Come to This—*

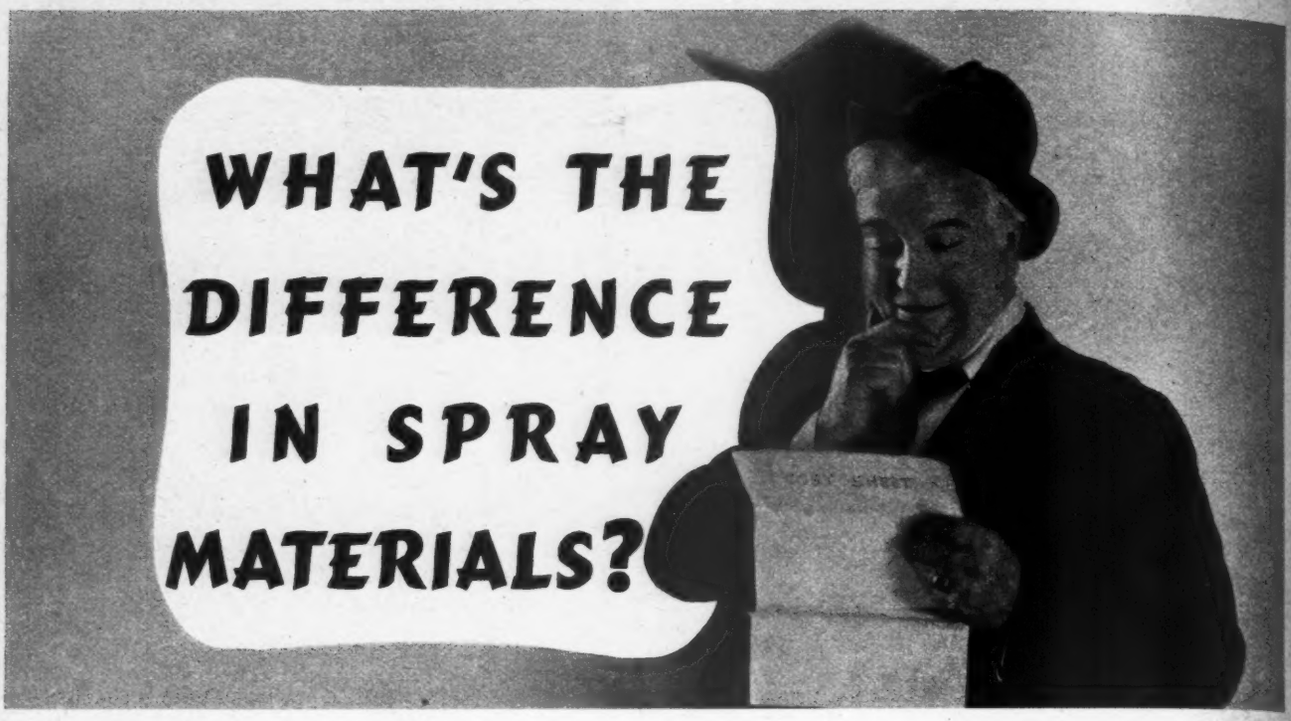
● **Sound fruit for human food is a direct tribute to the experience and knowledge of the orchardist—and to the insect spray materials he uses to protect his crop.**

**The wide use of "Black Leaf 40" as a means of killing destructive insects is due to its unusual effectiveness and its almost universal compatibility with other standard spray materials. Because "Black Leaf 40" kills both by contact and by fumes, its efficiency is thereby increased. "Black Leaf 40" is easy to mix and apply, and is economical.**

**"Black Leaf 40" has many uses outside the orchard—it kills lice on poultry and livestock. Kills insects on flowers and vegetables. Keeps dogs away from trees and shrubs. Kills stomach worms in sheep. In fact, is an insecticide that is used the year 'round.**

# "BLACK LEAF 40"

TOBACCO BY-PRODUCTS & CHEMICAL CORPORATION, INCORPORATED
LOUISVILLE ☆ KENTUCKY




One man might say, "I sprayed my trees with materials I bought for a song—and I got fair results".

Another man might say . . . "But I sprayed *my* trees last year with Orchard Brand* Spray Materials—and I produced a *prize* crop!"

That's the difference between ordinary spray materials and Orchard Brand Spray Materials . . . the real reason why leading growers everywhere have been putting these laboratory-controlled insecticides and fungicides to work for years.

Intensive research and close practical association with growers' problems have for years made Orchard Brand Spray Materials the last word in effective control, providing the greatest measure of safety to fruit and foliage.

You will find in the end that Orchard Brand Spray Materials *pay out*—that they will produce better crops and extra profit-dollars for every dollar you spend on *quality* spray protection.

ORCHARD BRAND
SPRAY and DUST Materials

*Products:*

Lime Sulfur Solution
Dry Lime Sulfur
Arsenite of Zinc
Bordeaux Mixture
Dritomic Sulfur*
Apple Dritomic* Sulfur
"Astringent" Arsenate of Lead
Standard Arsenate of Lead
Paris Green
Soil Sulfur
Basic Arsenate of Lead
Arsenate of Calcium
Nicotine Sulfate 40%
Instant Bluestone
Para-dichlorobenzene
Zintox*—A Basic Zinc Arsenate
Dust Mixtures to Specifications
Veget-Aid* (Rotenone Base) Dust and Spray

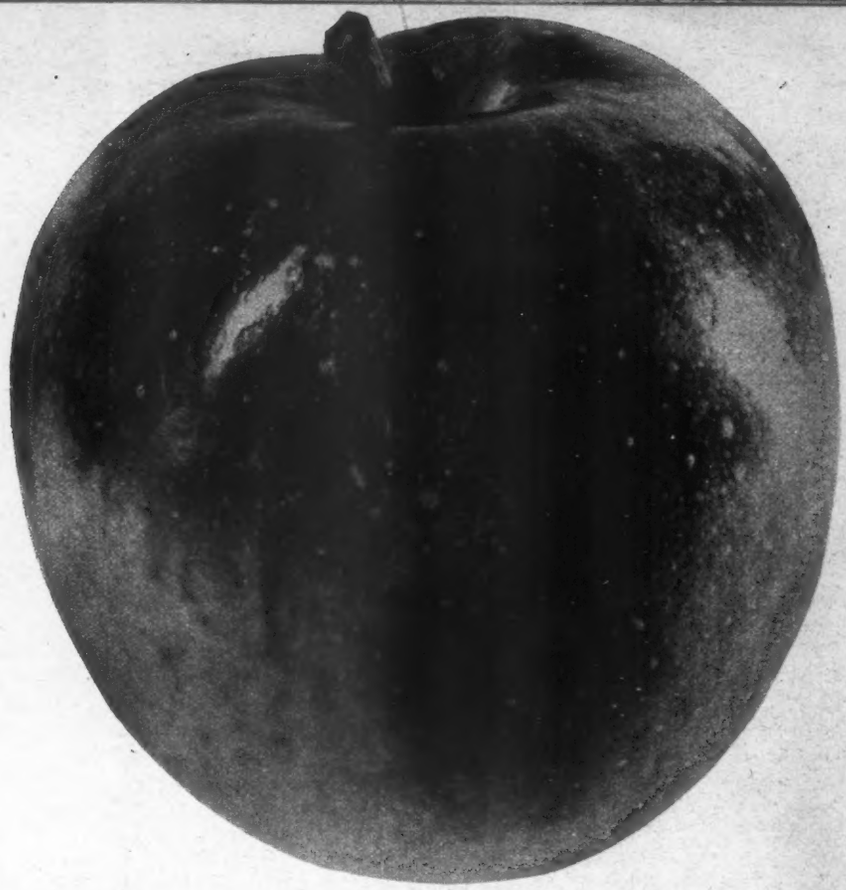
*REG. U. S. PAT. OFF.

## GENERAL CHEMICAL COMPANY

*Executive Offices:* 40 RECTOR STREET, NEW YORK CITY

*Sales Offices:* Atlanta • Baltimore • Boston • Buffalo • Charlotte • Chicago • Cleveland Denver • Kansas City • Los Angeles • Minneapolis • Montezuma (Ga.) • Philadelphia Pittsburgh • Providence • San Francisco • St. Louis • Wenatchee • Yakima
In Canada: The Nichols Chemical Company, Ltd. • Montreal • Toronto

# A DOCTOR DISSECTS AN APPLE



"The A, B, C of vitamins"

**Because it presents some new aspects of the "Health and Food Values of Apples," we herewith publish a digest of an address by Dr. F. T. H'Doubler made before the recent American Pomological Society convention at Springfield, Mo. Dr. H'Doubler is a well-known Missouri physician and is chairman of the Medical Section of the Missouri Academy of Science.—EDITOR**

THE most recent, strict and scientific determinations of apple make-up show the content of available sugar to be 12.17 per cent; water, 84.6 per cent; protein, 0.4 per cent; fat, 0.5 per cent; fiber, 1.2 per cent; cellulose, 0.83 per cent, and ash 0.3 per cent. The cellulose in the apple on breaking down furnishes a small amount of usable sugar. Thus the apple as a food is primarily carbohydrate.

The medical world has begun to awaken to the fact that there should be a check on the overuse of foods known as roughage, such as bran and spinach. They give rise to spastic and irritable colons.

We are not dealing with mechanical stimulation leading to increased transit and loose motions of large bulk—but rather stimulation of the mucous and other glands leading to increased bulk and this in turn to increased transit.

In the apple, included among the unavailable carbohydrates, is pectin. This substance is capable of holding a large quantity of water. It is responsible for the jellying in apple jelly, and it is what the housewife borrows from the apple when she makes jellies from other fruits. Gelatin and starch are also capable of taking up large quantities of water.

Pectin in this way furnishes bulk without any stimulation of the intestinal glands, and hence without irritating effects it promotes transit. For these reasons the apple is ideal in promoting bowel action—and hence the adage "an apple a day, keeps the doctor away," or the Devonshire rhyme, "Ait a happle avore gwain to bed, An you'll make the doctor beg his bread."

Since apples contain vitamins A, B, and C, this fruit can be used in treating those diseases associated with or caused by a deficiency of any one or of any combination of these three vitamins. Although careful studies have been made on the quantitative vitamin contents of various kinds of apples, no systematic medical use that I know of has been made of apples in treating vitamin deficiencies.

Vitamins are defined in the medical dictionary as "a substance, belonging to a group of organic bases of unknown composition, which is present in small quantities in food, and is necessary for the normal processes of metabolism. The absence or insufficiency of these substances is supposed to be the cause of beriberi, pellagra, rickets, and scurvy. Such condition is known as avitaminosis."

You will notice that that phrase "of unknown composition" is used in this definition. The dictionary is out of date, for research has revealed the chemical composition and structure of several vitamins, and some of these can even be synthesized. The meaning of vitamin may be further made clear as follows: Carbohydrates, proteins, and fats are known to be the basic food elements.

Any food owes its caloric or heat and energy furnishing value to some combination of one or more of these elements. Water and salt, calcium, and certain minerals are also, of course, necessary for life. However, if a proper balance of purified carbohydrates, purified proteins, and purified fats, together with water, salt, calcium, and minerals be supplied—an animal or person fed with such a diet would fail to thrive because of the lack of vitamins.

This subject has been the focus of so much research of late and so many things have been discovered concerning it, that I can only cite the more important facts that have to do with the three vitamins found in the apple.

Absence of vitamin A causes a lack of resistance and therefore a susceptibility to infection; this is manifested by a tendency toward development of infections in the head sinuses, nasal passages, tear ducts, middle ears, tonsils, respiratory tract, skin, bladder, and gastro-intestinal tract. Vitamin A is essential for maintaining normal skin and mucous membranes. These structures are our first barriers to infection. Thus the lack of vitamin A not only lowers our general resistance to infection, but also undermines our outer mechanical barriers. Consequently, vitamin A is often known as the anti-infective vitamin—or as having anti-infective factors or principles.

A lack of vitamin B likewise has

*(Continued on page 22)*

# APS

A PAGE CONDUCTED IN THE INTERESTS OF THE AMERICAN POMOLOGICAL SOCIETY

## OFFICERS ELECTED AT 53RD CONVENTION

THE 53rd convention of the American Pomological Society, held in joint session with the Missouri State Horticultural Society and the horticultural societies of the neighboring states, adjourned Friday evening, December 10. Springfield, Mo., was the scene of a really great convention which will be fully reported upon in the next issue of AMERICAN FRUIT GROWER.

The program was full of excellently presented and timely subjects; the fruit show was nicely staged; and the allied industries exhibits were numerous and complete in every respect.

### APS Constitution Amended

In order to elect a number of vice-presidents with specific duties to perform, the constitution and by-laws of the APS were amended to permit the nomination and election of more than two vice-presidents. After some discussion it was apparent that there were a number of national problems which needed attention at this time, and accordingly a group of vice-presidents was named to head up committees to study their assigned problems.

### Officers Elected for 1938

The following were elected to office for 1938:

President, B. S. Pickett, Ames, Iowa.
Secretary, H. L. Lantz, Ames, Iowa.
Associate-Secretary, John T. Bregger, Williamsport, Pa.
Treasurer, H. C. C. Miles, Milford, Conn.
Vice-presidents in charge of:

1. National Apple Institute program—J. H. Gourley, Columbus, Ohio.
2. International relationships—A. Grant Fox, Normandale, Ontario.
3. Public relationships—C. E. Chase, Wenatchee, Wash.
4. Allied industries relationships—T. J. Talbert, Columbia, Mo.
5. State horticultural society relationships—G. Leslie Smith, Rock Island, Ill.
6. Spray residue research—W. A. Ruth, Urbana, Ill.
7. New variety lists—C. P. Close, Washington, D.C.
8. Nomenclature—M. J. Dorsey, Urbana, Ill.
9. Transportation problems—To be named.
10. Exhibitions—To be named.

In the case of vice-presidents to take the assignments on transportation and exhibitions, the committee on nominations recommended that the board of managers name men to assume the duties of these assignments.

### Resolutions

The complete set of resolutions cannot appear at this time. However, a significant resolution relative to the desirability of supporting Secretary of State Hull in securing a reciprocal trade agreement with Great Britain received the unanimous support of the convention and specifically urged that present agreements be made which would reduce the present English tariff on American apples.

Next month we will present some of the highlights of the convention.

## HARDINESS IN NEW VARIETIES

Many of our friends have fruited, for trial, quite a large number of the new apple varieties which they have in their orchards. Without doubt these varieties have created an impression, either favorable or unfavorable, and perhaps a number of them have the fruit grower guessing because they seem to be too good to discard and yet not good enough to be given a whole-hearted recommendation.

The American Pomological Society from its beginning was organized to disseminate information relative to the many kinds and varieties of fruits grown in the United States. Our new fruits committee, under the leadership of Prof. C. P. Close, senior extension horticulturist, U.S.D.A., Washington, D.C., has for the past 10 or 12 years gotten together for publication in the APS reports a list of all the new fruits and nuts which were announced during each current year. This list is printed in the Proceedings of the American Pomological Society.

Throughout the history of American horticulture hardiness of the tree has stood out as being one of the most important characteristics of a fruit variety. The past half dozen years have again demonstrated the desirability of finding new varieties which more successfully meet their winter environments. Some of the new varieties originated by the various State and Federal experiment stations of this country and of Canada are proving their hardiness and are gradually becoming recognized as having a great commercial future.

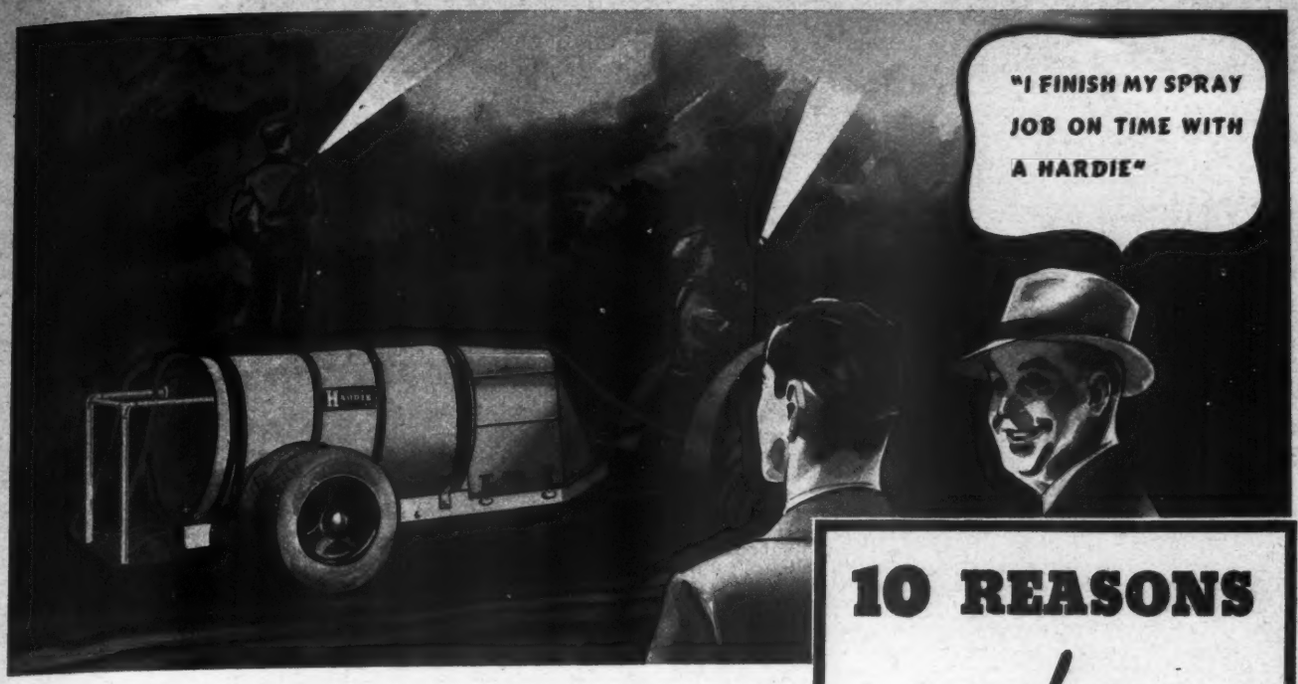
In the Middle West new varieties are arousing great interest. At the Iowa Agricultural Experiment Station this past year 40 Joan trees, 12 years old, bore a beautiful crop of fruit which created a sensation. We saw Joan in the grocery stores selling ahead of Jonathan in October.

Edgewood and Secor, two seedlings of the cross Salome x Jonathan, produced beautiful crops of fruit. These varieties are similar in coloring, but the tone of red is not quite so dark as that of Jonathan. The quality is spicy and sprightly and rates nearly equal to Jonathan. In fact, the quality of Secor has been rated by some experts as being superior to Jonathan. Both of these varieties seem well adapted to growing wherever Jonathan does well; both are larger than Jonathan; and the trees are annual croppers. The fruit of both varieties keeps a month and a half to two months longer than Jonathan and is entirely free of Jonathan spot. Edgewood hangs to the tree until late in the season and even up to the end of the season.

### Memberships

We are pleased to announce that AMERICAN FRUIT GROWER will be the official news organ of the APS for 1938. Also, each member of the APS will receive a year's subscription to AMERICAN FRUIT GROWER and a copy of the report of the annual convention held at Springfield, Mo., this December. Membership dues are $1.25 per year and should be sent to the secretary, H. L. Lantz, Ames, Iowa.

H. L. Lantz
SECRETARY




● Time and labor savings are designed and built into every detail of the Hardie sprayer. No time lost for pump repairs—no shut-downs.

Hardie roller bearing trucks reduce draft so that much larger tanks can be taken into the orchard. Time out for refilling is greatly reduced.

You can take a 600-gallon tank of spray liquid anywhere in one of the new Hardie Tandem Tractor Trailer Sprayers. Look to Hardie for the latest and best in power outfits.

Hardie sprayers are streamlined so that they move readily through low-hanging foliage. No time spent untangling branches from sprayer.

Ample automatic lubrication avoids the necessity of frequent oiling. All working parts are easily and quickly accessible. Necessary service is quickly done.

The dependable Hardie pump stands up to its job, delivering its full rated gallonage and pressure hour after hour and day after day. Each individual part of the Hardie sprayer contributes to speed, ease and economy in operation.

The Hardie is completely dustproofed. . . A steel hood protects pump and engine from dust, dirt and spray material. Hardie coil-in-tank cooling eliminates the troublesome radiator.

See why "I finish my spray job on time with a Hardie." Write for the 1938 Hardie catalog—64 pages of interesting and informative data about the sprayer used by leading growers the world over. . . Many models and sizes from 4 gallons per minute at 300 pounds pressure to 50 gallons per minute at 800 pounds.

THE HARDIE MANUFACTURING COMPANY • HUDSON, MICH.

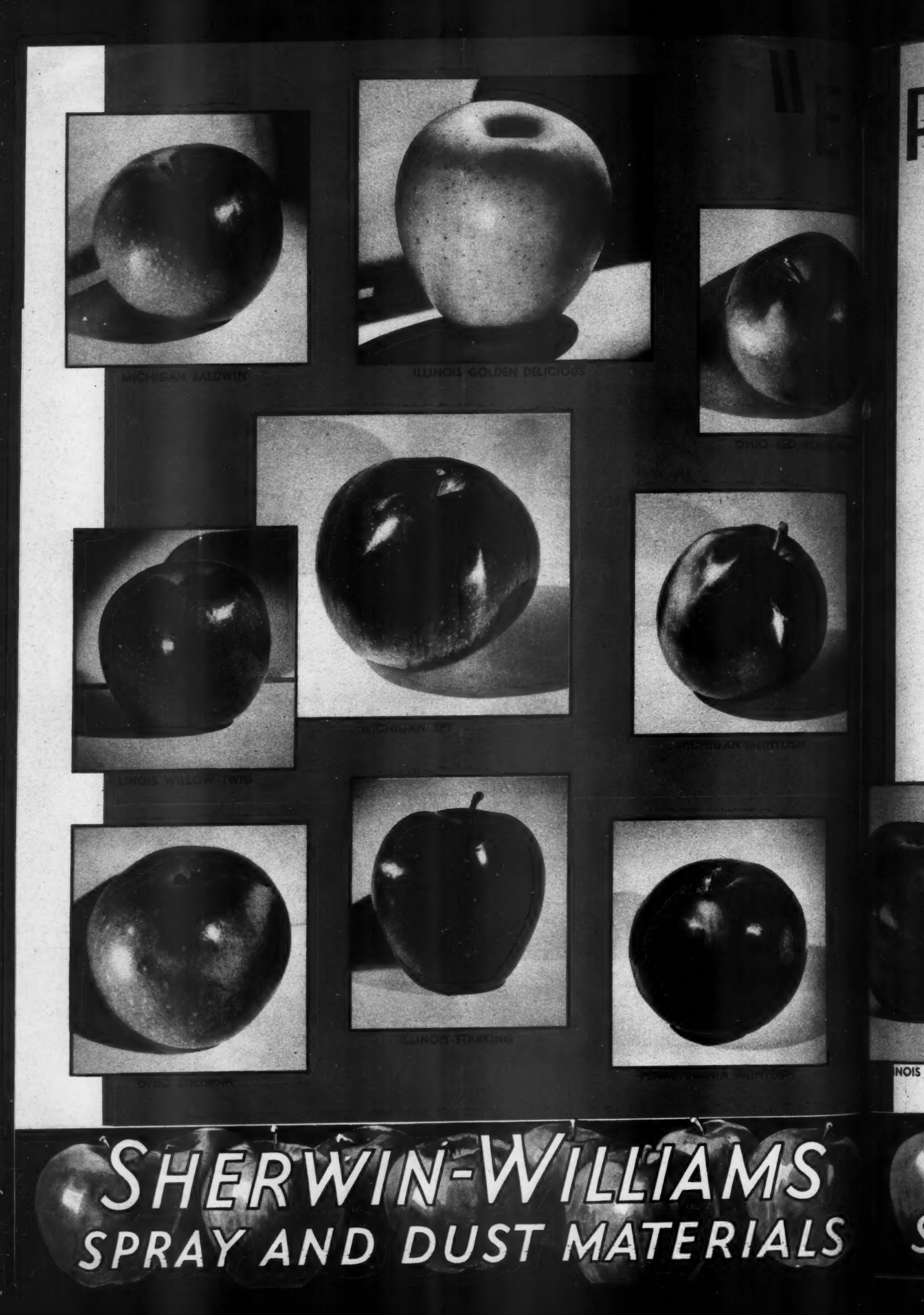
Branch Factories, Sales and Service Offices: Portland, Ore., Los Angeles, Calif., Kansas City, Mo., Brockport, N.Y., Hagerstown, Md. Export Dept., Detroit, Mich.

# HARDIE

*Dependable Sprayers*

# 10 REASONS *why* YOU WANT A HARDIE

1. Full rated capacity and pressure delivered at slow speeds.
2. Convenient and low-cost adjustments and replacements.
3. Vertical crankshaft - driven plungers with long connecting rods reducing power and replacement costs.
4. Individual, selective, clean oil lubrication for every moving part including cylinder, plunger and plunger cup.
5. Pump and engine completely protected by dust and dirt-proof steel hood.
6. Interchangeable steel or rubber tired wheels. Interchangeable steel or wood tank.
7. Volumetric pump efficiency 96% to 98%—highest in the industry.
8. Easily accessible stainless steel valves.
9. Heavy forged steel crankshaft in large replaceable bearings.
10. Roller bearing trucks permitting the use of larger tanks.


MICHIGAN BALDWIN
ILLINOIS GOLDEN DELICIOUS
OHIO RED
ILLINOIS WILLOW TWIG
MICHIGAN
ILLINOIS STARKING
SHERWIN-WILLIAMS
SPRAY AND DUST MATERIALS

# RY ONE A PIPPIN"

## *Fine Color and Fine Finish*

FROM USING

# DRY LIME SULFUR WETTABLE SULFUR

**Study these apples. Each one is A-Grade. Each one has personality—FINE COLOR and FINE FINISH. In short, "EVERY ONE IS A PIPPIN"—the kind of apples a grower can sell at a PROFIT. And, they are not merely "hand-picked" specimens. Represented are different varieties from orchards in various states. These apples came from crops harvested by growers who were foresighted enough to use the NEW SAFETY-FIRST Summer Spray Combination—Sherwin-Williams DRY LIME SULFUR with SULFIX SULFUR-WETTABLE.**

**This new S-W way to MAKE SULFUR WETTABLE gives you the most effective, safe and economical summer spray for apples ever devised. Practical growers everywhere are now using this combination exclusively instead of old-style, expensive wettable sulfur with liquid lime sulfur.**

NOIS GANO

**Here's what it does:** Protects against SCAB; ELIMINATES risk of RUSSETING, which always threatens when liquid lime sulfur is used; GUARDS against FOLIAGE INJURY; ASSURES A-GRADE APPLES of FINE FINISH and FINE COLOR. Instead of expensive wettable sulfur DRY LIME SULFUR is used as the wetting agent, which in itself is a most effective fungicide. It SPREADS uniformly and STICKS tenaciously to fruit and foliage.

Write for FREE Folder

As a practical commercial grower you want to keep informed on new and better methods, so write at once for the special FREE folder which tells how this combination mixes, sprays, sticks and assures A-Grade Apples of Fine Color and Fine Finish.

**THE SHERWIN-WILLIAMS CO.**
Insecticide Department
101 Prospect Ave. Cleveland, Ohio

**THE SHERWIN-WILLIAMS CO.**
**DRY LIME SULFUR—SULFIX SULFUR**
**1938 SPRAYING SCHEDULE**

| No Scab | No Russet | No Foliage Injury |
|---|---|---|
| Pre-Pink and Pink | 3 lbs. Dry Lime Sulfur<br>5 lbs. SULFIX Sulfur | |
| Calyx | 2 lbs. Dry Lime Sulfur<br>4 lbs. SULFIX Sulfur | |
| Additional Scab Sprays | 1 lb. Dry Lime Sulfur<br>4 lbs. SULFIX Sulfur | |

**THESE DILUTIONS ARE PER 100 GALLONS OF WATER**

1 part Dry Lime Sulfur will make wettable up to 4 parts of SULFIX Sulfur.

Add 3 lbs. of Sherwin-Williams Arsenate of Lead to each 100 gallons of spray when necessary. **When using arsenate of lead add 4 lbs. of hydrated lime to 100 gallons.**

# SHERWIN-WILLIAMS
## SPRAY AND DUST MATERIALS

# STATE NEWS

NEBRASKA—Marketing of apples and moisture conservation were the two principal themes discussed at recent annual meet of Nebraska State Horticultural Society at Lincoln.

General opinion prevailed that owing to lack of a law governing grading and packing standards much cull fruit was dumped onto Nebraska markets the past fall, resulting in depressed prices for better grades.

President Dearle Baker of Shubert implored society members to keep working for a grading and marketing law similar to that which has been found practical in some other states. In reappointing the Legislative Committee, he urged them to carry on.

Rainfall records for 1937 in Missouri River apple section showed a deficit of eight to 12 inches from average. During last seven years, it was pointed out, the deficit has been 50 inches of moisture.

In assuring nurserymen during their meet that similar dry periods have occurred in Nebraska during the last century and that each time a wet period followed, Dr. N. A. Bengston of University of Nebraska staff, was unable to predict whether the beginning of the wet period lay in the year ahead or two years ahead.

Dr. F. L. Duley, Agricultural Conservation Program, explained how erosion and run-off are abetted by slopes and clean cultivation. He advised planting new orchards on the contours rather than parallel to the fences as in the past.

For old established orchards he recommended basins, stub terraces, and basin listing where the slopes are not too steep. He also suggested that cover crops be used but kept mowed regularly and frequently. By this means moisture that ordinarily would run off could be stored in the subsoil for the future needs of the trees.—E. H. HOPPERT, Sec'y, Lincoln.

SOUTH DAKOTA—Traveling over 450 miles won for E. A. Gates of Rapid City the prize offered the person coming the greatest distance to attend 54th annual meet of South Dakota State Horticultural Society at Clark. Valid claim for the prize perhaps could have been made by Carl A. Hansen who had come direct to the meeting upon his return from a business trip to Russia.

In a report on his plant breeding work, Dr. N. E. Hansen of Brookings stated he is using wild crab, in the hope that the resulting seedlings will inherit the long-keeping characteristic of the crab.

Charles Benike of Clark was showered with praise by the large attendance for his splendid fruit display consisting of a number of varieties of apples. Benike has done considerable top-working in past years and finds Virginia Crab an excellent stock-tree.

George W. Gurney of Yankton reported that he had done extensive propagation of Dr. Hansen's hardy apricots the past season. It is hoped sufficient stock of these hardy sorts, which come into bearing before the earliest plums ripen, will soon be available at least to partially fill the demand.

All officers were re-elected, as follows: president, F. X. Wallner, Sioux Falls; vice-president, George W. Gurney, Yankton; and W. A. SIMMONS, Sec'y, Sioux Falls.

NEW YORK—John N. DeMuth of Pembroke, credited with being the first migrating beekeeper, recently made his sixth trip to the orange groves of Florida with his bee colonies.

Grove owners welcome "tramp" beekeepers, according to DeMuth, since Florida bees are inactive in winter and the northern bees are valuable in pollinating the trees.

DeMuth and his son, Jourdain, take the bees south by truck. They plan to take 300 colonies in two trips, and they expect to bring back in the spring between 700 and 800 colonies.

The bee truck makes the run with no stops except those to refuel. A half-hour stop, according to DeMuth, would mean heavy losses because the truck vibration keeps the bees quiet while a lengthy stop causes them to jam against the screens of the hives.

CALIFORNIA—Despite curtailment because of the most serious freeze loss ever experienced, advertising of the California Fruit Growers Exchange for the year ended October 31, 1937, amounted to $1,311,819, bringing the total advertising investment for the past 30 years to $24,453,043, or 1.12 per cent of the delivered value of the fruit, according to the annual report of Paul S. Armstrong, general manager.

Cost during the last year of the exchange's complete marketing service, including advertising, was 3.31 per cent of gross sales, compared with 3.2 per cent in the large crop year of 1936.

WASHINGTON—Because of the large amount of sweet cherries lost through cracking due to humid weather at maturity, investigations were undertaken at U. S. Fruit and Vegetable Products Laboratory at Pullman to find outlets for this type of fruit.

To date, as reported in a paper by P. D. Isham and H. H. Mottern, presented at recent convention of Washington State Horticultural Society at Pullman, the product probably having greatest commercial possibilities and worthy of investigation is a marmalade base, prepared from a blend of sweet and sour cherries. It is a fine product, possessing characteristic color and flavor, and the yield is high and the processing cost low, according to the report.

In a talk on "The Significance of Frequencies and the Amounts of Irrigation Water Applied to Orchards, as Related to Tree and Fruit Response," Walter J. Clore pointed out that in studies conducted at the Irrigation Branch Experiment Station "growth measurements as determined by length of terminal shoots, leaf areas, and trunk circumference increase indicate the response of the tree to available soil moisture.

"Seven years' data show that, on a Sagemoor fine sandy loam soil, trees receiving the same total net amount of water, produced more fruit when the water was applied at 30-day intervals than when it was applied at 15-day intervals.

"Irrigations less than 40 acre inches for the season, in every case resulted in smaller size fruit.

"Alfalfa has played an important role in the Irrigation Branch Experiment Station orchard, aiding in water penetration, stimulating growth, and correcting 'Little Leaf' troubles."—J. C. SNYDER, Sec'y, Pullman.

ILLINOIS—At the 66th annual convention of Horticultural Society of Central Illinois held in Peoria, the following officers were elected: president, Myron B. Shoff; vice-president, George Seibold; and secretary, Leo J. Hagemann, all of Peoria.

Officers for 1938 for Horticultural Society of Northern Illinois, elected at recent meeting in Aurora: president, Arthur Bryant, Princeton; vice-president, V. L. Page, Rockford; secretary, Orville H. Waddell, Davis Junction; and treasurer, L. H. Cutler, East Dubuque.

MICHIGAN—Cool but clear weather and a well-balanced program resulted in excellent attendance at Michigan Horticultural Society meeting at Grand Rapids.

Most of the program sessions were well-attended and a record crowd was present for the banquet, which featured music, a magician and speaking. A dance followed the banquet.

Edwin C. Reid, who was secretary of the society from 1888 to 1900, was awarded the only honor award at this year's meet. He is a veteran fruit enthusiast of Allegan.

Program features included discussions on the new copper spraying compounds, grower experiences during last season, and a talk on cider production.

Officers for 1938: W. K. Bristol, Almont, president; Arnold Schaefer, Sparta, vice-president; H. D. Hootman, East Lansing, secretary; and J. A. Richards, Eau Claire, treasurer.

NEW JERSEY—More than 400 of a total membership of 924, the largest since 1924, attended the 61st annual convention of New Jersey State Horticultural Society which concluded its three-day session in Atlantic City December 2.

Present officers were re-elected as follows: president, Ralph B. Starkey, Mullica Hill; vice-president, Lawrence J. Smith, South River; secretary-treasurer, Arthur J. Farley, New Brunswick.

Stressing the value of advertising in marketing, Henry S. Ortega of New York and New England Apple Institute, told convention dele-

(Continued on page 24)

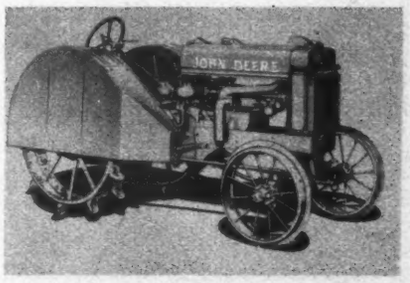
Tailor-Made
FOR Fruit Growers
"MY JOHN DEERE ORCHARD TRACTOR COSTS ONLY 31¢ PER HOUR TO RUN AND THAT INCLUDES FUEL, OIL, SERVICING, REPAIRS AND DEPRECIATION," says F. N. BURT De Leon Springs, Florida

For every power operation in orchard, grove, or vineyard —plowing, disking, cultivating, spraying, harvesting, hauling—John Deere tractors are *tailor-made* to do *more work,* for a *longer time,* at *lower cost.*

You'll like the low-down, compact construction; the short wheelbase and foot-operated differential brakes for short turning; the careful shielding and guarding that protects low-trimmed trees, blossoms, and fruit. A John Deere Orchard Tractor is *easy* on your trees, and also *easy* on your pocketbook. Exclusive two-cylinder engine design means fewer, stronger, more rugged parts—ability to make adjustments and repairs right on the farm and from a standing position. But more than this, it means outstanding ability to burn the low-cost, money-saving fuels. Back of every John Deere stands a 13-year record of efficiency in the use of distillate, fuel oil and furnace oil.

Make it a point to visit your nearby John Deere dealer. Ask him for a demonstration. It's the only way to really appreciate the ample power, easy steering, convenience of controls, operating comfort, and four working speeds for heavy, medium, and light jobs, and the many other features that will save money, time, and trees for you.

Speed up every orchard and grove operation with a John Deere two-cylinder money-saving tractor—and—fill in the coupon for FREE folders.




*The John Deere Model "BO", with pulling capacity of a 4-horse team, is a favorite in small groves everywhere.*

*The John Deere Model "AO" is built low, fully streamlined; has the pulling capacity of a 6-horse team.*

JOHN DEERE, Dept. G-42, Moline, Illinois
Send me your FREE folder on John Deere Orchard Tractors; also literature on the implements checked.

- ☐ John Deere Orchard Plows
- ☐ John Deere Orchard Harrows
- ☐ John Deere Orchard Cultivators
- ☐ John Deere Power Mowers
- ☐ John Deere Rubber-Tired Trailer Gear

.....
(write in other tools desired)

Name.....
Town.....
State.....R. F. D.....

**JOHN DEERE 2-CYLINDER TRACTORS**

University of Idaho
LIBRARY
MOSCOW, IDAHO

**FREE** to FRUIT GROWERS

*Interesting Bulletin tells how top growth can be increased 6 times . . .*

Here's a bulletin every fruit grower should have—"How to Plant and Grow Trees." It reports conclusions digested from years of intensive research. Tells how experiments conducted with Peat Moss at State Experiment Station produced new shoot growth, averaging 82.7 inches in one year—6 times that of trees planted under normal soil conditions.

Before you plant any more trees, be sure to send for this bulletin. It's Free for the asking. Just address Dept. AFG-1.

**PEAT INSTITUTE OF AMERICA**
*Division of Peat Import Corporation*
**155 John Street** **New York, N. Y.**

This Modern, homelike Hotel, on FLORIDA'S most healthful SOUTHEAST COAST, affords a refined atmosphere for rest. ONLY 25 minutes' drive to MIAMI and its varied diversions. MODEST RATES: GOLF, FISHING, SHUFFLEBOARD, OCEAN BATHING, TENNIS, CLOCK GOLF, Etc. Official AAA Hotel.—Ownership-Management.

**DANIA BEACH HOTEL**
DANIA FLA


# CITRUS INDUSTRY IN LONE STAR STATE

*(Continued from page 7)*

poses. Central markets have indicated a distinct partiality for seedless fruit. A third variety of grapefruit, the Pink Marsh Seedless, has become popular since it made its first appearance as a bud sport in one of the valley groves about seven years ago. The Pink Marsh has a distinct pink flesh, is seedless, has excellent quality, and the pink color appears over the golden skin. Selections are now being made to obtain more pink color on the skin than occurred on the fruit when it was first introduced.

Plantings of oranges in the Rio Grande Valley are small when compared with grapefruit plantings. There are 1,451,931 orange trees in commercial production and 156,162 young trees. The pineapple variety, a juicy, thin-skinned, seeded orange was most popular in the early plantings. Parson Brown, a later maturing seeded sort, with a thicker skin, was second in popularity. Thus far attempts in growing Navel oranges of high quality have generally met with disappointment, the fruit being coarse or woody in texture and decidedly lacking in juiciness. The Temple variety has increased in popularity in recent years because of its high quality. It is handicapped by being a rather poor shipper.

Norris, a seedless orange similar in appearance to Pineapple, has been planted in recent years almost to the exclusion of all other varieties. Valencia is the most popular and satisfactory late variety. Growers find a ready sale for this seedless orange. During the past five years Valencia, a late orange, and Norris, an early type, have been planted extensively.

Climatic conditions prevent Rio Grande Valley oranges from developing a deep golden color. The fruit, however, has a high juice content, and is exceptionally sweet. To overcome the color handicap, many packing houses have installed equipment with which to treat the fruit with an artificial coloring material, which not only gives an attractive color to the fruit, but insures uniformity of color in each box.

There are less than 50,000 tangerine trees of all ages in the valley. Shipments are limited to special gift packages and local truck sales within the State. Dancey is the leading variety grown.

There are approximately 50,000 lemon trees, most of which are grown in Hidalgo County. The Lisbon and Eureka varieties are not as satisfactory as the Meyer, because the trees are too tender to low temperatures. Lack of adequate curing houses is another factor which has served to hold down lemon production. The Meyer lemon is very hardy under valley conditions, and except for a tendency of the fruit to become too large for commercial purposes, growers might be justified in expanding their acreage.

In 1934 a law was passed by the State Legislature which provided for compulsory grading of shipments of grapefruit and oranges. Approximately 75 inspectors are employed during the height of the harvesting season to supervise this work. During the 1936-37 season, 22,780 cars of citrus were certified.

To further insure that only quality Texas citrus fruit reaches the market, a citrus maturity law provides that fruit must have matured sufficiently so that the sugar-acid ratio has developed to a prescribed point before harvesting for shipment can be done. Inspectors go to the groves, test samples of fruit, and advise the grove owners if the fruit is ready for harvest.

In the 1936-37 season, 6890 car loads of grapefruit were converted into canned juice. Fruit with slight defects or undesirable sizes can be made into juice of highest quality. There are approximately 30 canning plants in operation in the Rio Grande Valley. Juice operations do not begin until December when the fruit has reached maximum maturity.

Illinois, Ohio, and Missouri lead in the purchase of Texas citrus fruit. New York and the northeastern seaboard states are largely supplied with fruit coming from Florida. So far attempts to ship fruit to Europe have not indicated that we can expect to make extensive sales there

*(Continued on page 23)*


*Control Orchard Pests with* STAUFFER SULPHURS

Stauffer Sulphurs give safe, sure control at the lowest possible cost. That's why more Stauffer Sulphur is used than all others. Check our list of sulphur products—there's a definite grade for every type of equipment and for every known insect and fungus controlled with sulphur.

"MAGNETIC-SPRAY" WETTABLE SULPHUR—The purest, effective wettable sulphur obtainable. 98.5% pure sulphur.

"ELECTRIC" SUPER-ADHESIVE DUSTING SULPHUR—99.8% pure, processed distilled sulphur possessing superior adhesive properties.

"MAGNETIC" CATALYTIC SULPHUR—A safener for lime sulphur-lead arsenate spray combinations.

"MAGNETIC" HUMIDUST—A sulphur dust for use during wet weather.

"CROWN" BRAND WETTABLE SULPHUR—A superfine commercial flour sulphur to which 5% wetting agent has been added.

"SWAN" BRAND SUPERFINE VENTILATED DUSTING SULPHUR—97.5% Pure.

Stauffer CHEMICALS

STAUFFER CHEMICAL COMPANY
FREEPORT, TEXAS • 420 LEXINGTON AVENUE, NEW YORK • CHICAGO, ILL.

# FOR *Regular* AS WELL AS *Emergency* JOBS

# COUNT ON CLETRAC

● Put a Cletrac to work for you in your orchard and you'll have an implement that will do *all* the regular as well as the many odd jobs around your farm.

In a few weeks dormant spraying will be important. And this spraying must be done *on time*—in spite of soil and weather. When the blossoms burst forth again spraying *cannot wait*—soil and weather conditions not withstanding.

But the Cletrac owner smiles at ground conditions—pays no attention to bad going—he *knows* his Cletrac has ample traction for even the most slippery soils and ample power for pulling a heavy spray rig.

He knows that Cletrac is a real orchard tractor, designed from the ground up to operate winter and summer, over mud, sand, rocks—on the hills and on the level. He knows he has a time-saving, money-saving, crop-saving tractor. He knows he gets *more* work . . . *better* work . . . *timely* work into every working day.

And when his orchard does not need the Cletrac, he can use it on other jobs around the farm, such as plowing, trenching, grading, silo filling, stump pulling—or for any work where a mobile power unit is required.

**THE CLEVELAND TRACTOR COMPANY,** *Cleveland, Ohio*

There's no more important time in your orchard than spraying time. Cletracs have the power and traction to go anywhere at any time with a loaded spray rig behind.

●

What's more beautiful than an orchard in bloom? But the blossoms must be sprayed at the right time—it takes a Cletrac to do timely orchard work.

A heavy duty disc wasn't enough of a load for this Cletrac AG, so the operator added a spring tooth harrow to get more work into the same day.

Grubbing stumps takes power. Cletracs can do all your odd jobs as well as the regular ones, faster and more economically.

Cletrac dragging a hillside. With controlled differential steering, Cletrac steers the same on hills and level—a real safety feature in hilly country.

## *Valuable Information . . . FREE*

You will want to know all about Cletrac, including the new 23 H. P. Diesel *before* you buy your next tractor. Mail the coupon. We will send you interesting literature that explains Cletrac performance in orchards and for general farming.

The Cleveland Tractor Co.
19300 Euclid Ave. • Cleveland, Ohio

Please send complete information regarding your orchard models to

Print Name _____

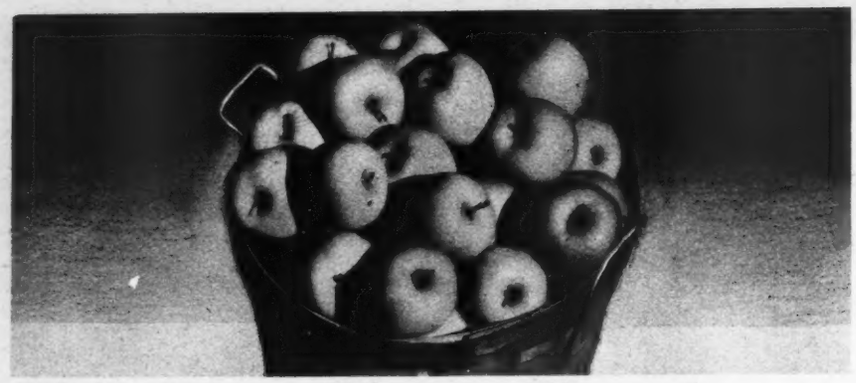
Street & No. or R. F. D. _____

Print Postoffice _____ State _____

University of Idaho
LIBRARY
MOSCOW IDAHO

Cletrac
WEDGE PAY OFF
Crawler Tractors
Built To Endure

22-94 HORSEPOWER GASOLINE, DIESEL AND TRACTOR FUEL MODELS



# Do Your Trees Produce Fruit Like This ?

*FERTILIZE THEM WITH—*

GRANULAR 'AERO' CYANAMID EARLY THIS SPRING

*—AND HARVEST A*

PRIZE-WINNING CROP

*—IN THE FALL*

Every ton of Granular AERO Cyanamid contains 420 pounds of nitrogen, which feeds the trees evenly throughout the growing season; and, in addition, 1400 pounds of lime, which sweetens the soil and keeps it healthy.

*Write for Leaflet F-142*

CYANAMID PRODUCTS

AMERICAN CYANAMID COMPANY

30 ROCKEFELLER PLAZA NEW YORK, N. Y.



IN ROCHESTER, NEW YORK

HOTEL ROCHESTER

Radio in Every Room
Air Conditioned
Lobby, Dining Room, Grill

★

IN KINGSTON, NEW YORK

THE GOVERNOR CLINTON

Headquarters Hotel for
1938 Eastern Convention and Show
N. Y. State Horticultural Society

MARTIN IDEAL
Terrace at Low Cost with the Martin
Farm Ditcher, Terracer, Grader
Stops soil-washing, wind-erosion, fertilizer loss. Conserves rainwater against drouth. Doubles grazing. Cuts ditches, drainage, irrigation, builds rice levees, grades roads. At hand for work spare time, horses or tractor. 10 DAYS TRIAL.
OWENSBORO DITCHER & GRADER CO., Inc.
Box 18 Owensboro, Ky.
Send for free illustrated literature
Ditch!
30 V TYPE
All-Steel Reversible Adjustable
HUM-MER
Latest features. Low price. Front and rear wheels


## A DOCTOR DISSECTS AN APPLE

*(Continued from page 13)*

a list of widespread and as confusing symptoms. Pellagra is definitely ascribed to a deficiency of vitamin B—and at that to a definite fraction or principle of this vitamin known as $B_2$.

Vitamin C is best known for its ability to prevent scurvy. The symptoms of scurvy are well known—bleeding from the gums, hemorrhages, black and blue spots in the skin, painful joints, etc.

There are, of course, other vitamins, but as they are not found in the apple, we are not concerned with them here. Ordinarily most people in this country receive such diets that they get a reasonable vitamin content. Extreme conditions of scurvy and beriberi are not very prevalent, but pellagra is by no means rare, especially in the South. There are many, however, who get only a subminimal amount and when their diets are properly supplemented, marked gains in health occur.

As to the type of apple used for treatment of diarrhea or dysentery, a questionnaire by Dr. Ira A. Manville reveals that American physicians have not specified any particular apple. All agree that ripe apples should be used. The ones most commonly used are the Winesap, Spitzenburg, McIntosh, and Delicious.

Reports show successful treatment of a case as young as 11 days—and that one a premature baby. The ages of cases treated range from 11 days on up through infancy, childhood, and to adulthood.

The objections to the use of raw apples for disease treatment are that ripe apples are not always available; parents are confused and wonder how apples which they know often cause diarrhea, can be used in treating diarrhea; grated apple turns brown through oxidation and fermentation on standing and is repellent and loses some of its value; as children often refuse feeding in whole or in part, a specific amount cannot be easily prescribed and given; and there is waste, and also apples are often expensive.

As a result of these objections scientists have turned to the use of apple powder and in 1931 a German company began placing a powder on the market known as "Aplona." This contains the apple peel. Quite independently in 1934, Dr. Manville began producing in his laboratory at the University of Oregon at Portland, Ore., an apple powder made from cored and peeled apples and known as "Appella." The right to prepare and market Apella has just recently been released and it will soon be available for all who are interested.

Manville says that apple powder used in the place of pulp has produced the same results. Apple powder overcomes the above objections and can be used on infants.

It is evident to everyone that, possessing as it does all these qualities, the apple must be most highly efficient in merely promoting and maintaining what we ordinarily term as health. It is not a drug. On the contrary, it is a most tempting, palatable, and enjoyable fruit, and a good food. It maintains its valuable health-giving and disease-preventing properties whether eaten raw or in the form of apple butter, apple sauce, fritters, dumplings, apple pie, or baked apple. In addition to our scientific supporting facts, ages of folklore, ages of racial experience, adages dating from antiquity and coming down through the ages, attest to this health-giving value.

## CITRUS INDUSTRY

*(Continued from page 20)*

and realize much profit. In seasons of high production processing the fruit into juice and other by-products may be the most profitable method of handling the surplus. The American public is consuming more citrus fruit per capita than ever before. And why not? It is one of our best and most healthful foods.

Texas Citrus Crop Returns (1936-37)

| Grapefruit Boxes | Average price | Return |
|---|---|---|
| Shipments 6,410,160 | $2.09 | $13,397,234 |
| Processed 2,563,000 | Per ton $7.50 | 768,700 |
| | | $14,165,934 |

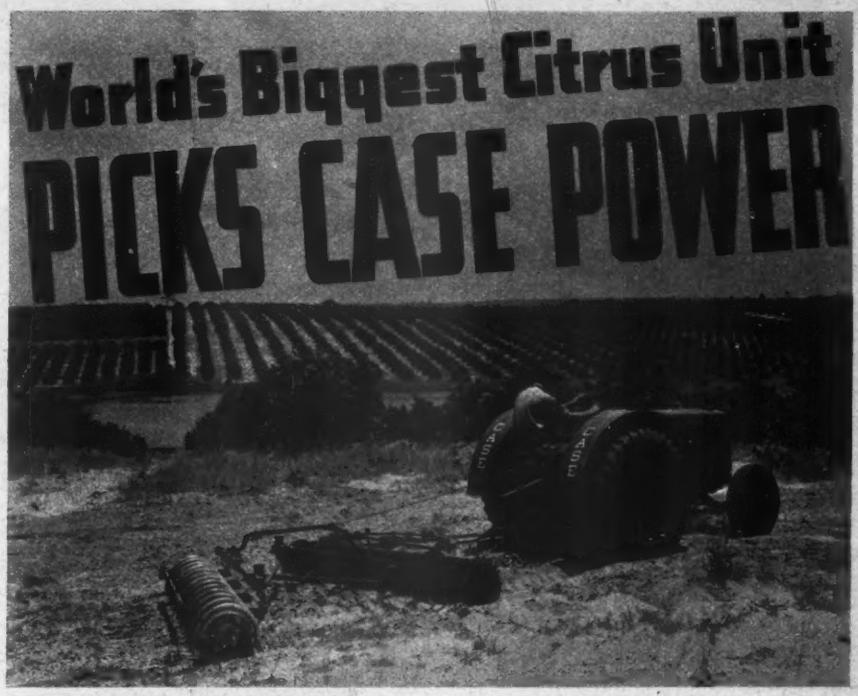
## NEW CITRUS BY-PRODUCT

HAVING already developed a rapidly increasing outlet for dried citrus cannery refuse as feed for cattle, poultry, and hogs, Florida citrusmen have just introduced a citrus by-product for use as a human nutrient.

This winter, for the first time, a citrus breakfast food is being marketed made of oranges, with oily peel and seeds removed, plus flour, bran, sugar, salt, and cod liver oil to intensify the vitamin D potency.

Developed by the Florida Citrus Exchange as a result of a long period given to experimental development, the new citrus by-product is packaged under the Seald-Sweet brand and is being distributed over the nation.

Just as citrus meal and citrus cannery refuse pulp are finding a market for 15,000 tons of citrus annually, Florida growers expect this new product to find favorable outlet for still other thousands of boxes of surplus fruit.—OSCAR KEELING MOORE.


LOWEST TOTAL POWER COSTS IN TRACTOR HISTORY

CASE

Howey-in-the-Hills, with half a million orange and grapefruit trees to bolster its proud boast of being the world's largest citrus unit, uses Case tractors. Whether you have hundreds or thousands of trees ... whether you grow grapes, berries, or something else ... whether you need but a single tractor or a fleet, you can get the same performance and economy by choosing Case power.

The more tractor experience they have, the more fruit men prefer Case for performance ... speed, sweet handling, superb balance, easy steering, short turning with full load. And the more essential economy may be, the more they appreciate Case's three-fold thrift ... low first cost, low fuel cost, and low upkeep cost ... that has brought the lowest total power cost in tractor history.

Case implements match the speed and power of Case tractors with stamina to stand sustained speed ... better bearings and lubrication for longer life ... easier operation, simpler adjustments, more perfect work. There is an orchard model of the Case Centennial Plow; cover crop disk harrows in tandem and offset styles; spring and spike-tooth harrows; subsoil tillers, drills, mowers, etc. See them at your Case dealer; mail coupon today. J. I. CASE CO., Racine, Wisconsin.

SEND FOR FREE CATALOG

... special fruit-grower catalog, also "It's Total Power Cost that Counts," fill blanks below, mark machines that interest you; mail to J. I. CASE CO., Dept. A-12, Racine, Wis.

☐ Orchard tractors ☐ Offset disk harrows
☐ All-purpose tractors ☐ Tandem disk harrows
☐ Orchard plows ☐ Subsoil tillers

Name .....
Address .....

University of Idaho LIBRARY MOSCOW IDAHO

AGENTS UP TO $50 IN A WEEK

Big cash profits for you; full or spare time. Over 250 household necessities—things people must buy. Proven fast sellers; steady repeaters, earnings very first day. FORD TUDOR SEDAN GIVEN YOU AS BONUS. I'll show you how to start at once; send you everything—Big Display Outfit and quick cash plans. Details FREE—no obligation. Just send name on postcard.

ALBERT MILLS, 4300 Monmouth Ave., Cincinnati, O.

SPREAD-OL—

Has many uses in the spray schedule from dormant to last cover. Write for particulars or see your dealer.

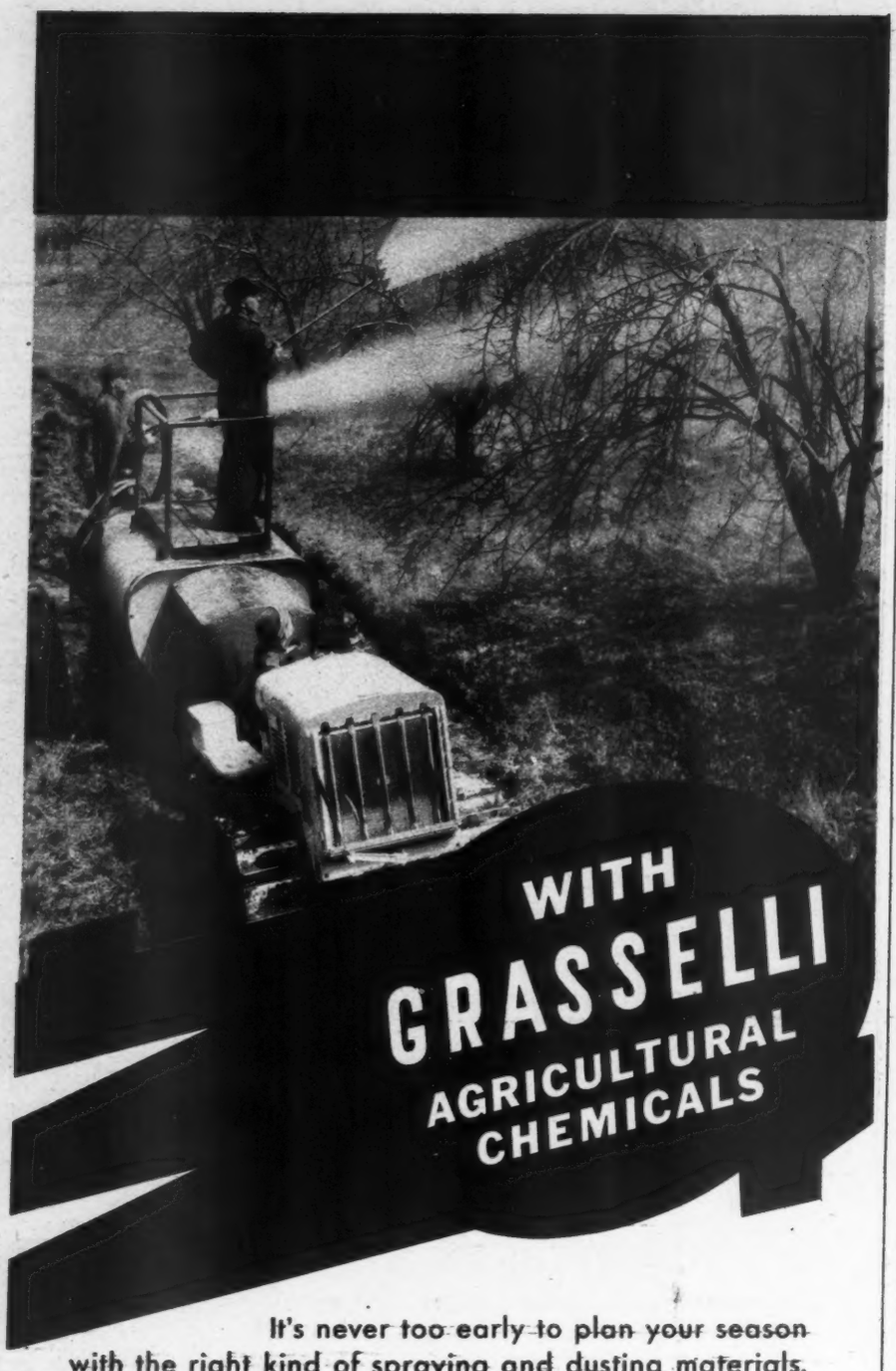
SILMO CHEMICAL CO.
Vineland, New Jersey

Spray Guns with Controlled Streamline

W. L. HAMILTON & CO.

BANGOR · MICHIGAN

Six Models · A GUN FOR EVERY PURPOSE




It's never too early to plan your season with the right kind of spraying and dusting materials.

GRASSELLI Agricultural Chemicals are backed by the research of Du Pont Pest Control Laboratories. Each product is as effective and as safe as experienced specialists know how to make them.

For effective control and economy plan to start right with GRASSELLI Agricultural Chemicals.

| | | |
|---|---|---|
| GRASSELLI Arsenate of Lead | Flotation Sulfur | DUTOX |
| SULFORON | Oils | Bordeaux Mixture |
| Calcium Arsenate | NuREXFORM Arsenate of Lead | Cryolite |
| GRASSELLI Spreader | Lime Sulfur | Zinc Sulfate |
| Nicotine Sulfate | Dry Lime Sulfur | Dusts |

GRASSELLI and NuREXFORM Arsenate of Lead are now colored pink to identify them as poisons.

# STATE NEWS

(Continued from page 18)

gates: "Eastern growers are not afraid of apple shipments from other sections of U.S., but citrus fruits are the greatest competitor of apples."

He added that the means of advertising citrus fruits by growers and packers moved their product rapidly and profitably, and the institute is following their methods with success. He told how a retail store that sold four bushels of apples a week increased its sales to 250 bushels a week through better displays as made through suggestions of the institute.

"Soil Erosion Activities in New Jersey" was presented by Dr. W. H. Martin, director of research, New Jersey Agricultural Experiment Station, who stated: "Most observers give attention only to badly gullied land where erosion has taken its greatest toll, but serious damage being done by the elements on more level areas passes unnoticed.

"Thousands of acres of fruit and vegetable areas throughout the State with slopes of one per cent are seriously washed. Everywhere orchards with slopes of four to 10 per cent can be found badly gullied between the rows of trees. Soil erosion differs so in orchards that each tree planting becomes a law unto itself in preventing loss of topsoil. Some 225,000 acres in New Jersey have already been surveyed for erosion effects."

Prof. W. H. Allen, State executive officer, Agricultural Conservation Program, recently appointed Secretary of Agriculture of New Jersey, spoke on "The 1938 Soil Conservation Program" on which he has represented the State. He inferred that, as previously, staple crop growers are principally considered in dividing the more than $500,000 spoils.

Allen advised New Jersey fruit and vegetable growers if they ever intend getting anywhere with a conservation program they should form committees, go to Washington, and fight for larger appropriations.

Belief was also expressed at the meet: that it is better to use very highly concentrated fertilizers than those of lower grade because of lesser expense in handling and relatively cheaper price, but they should be used in proportion to their analysis; that New Jersey soils have an adequate supply of magnesium and magnesium lime while not injurious need not be applied to the exclusion of a high calcium lime; that irrigation must be applied fast for the greatest good of crops instead of slowly; and that orchard soils should be kept above a 5-5-pH reaction for their greatest production, other things being equal.

TENNESSEE—Edward T. Downey of Sale Creek, one of the State's largest commercial peach growers, was elected president of the Tennessee State Horticultural Society at its 33rd annual convention in Jackson. Denton Fly buzzed in for the vice-presidency of West Tennessee, while Charles Murray of Morristown and J. H. Boyer of Murfreesboro were named vice-presidents for East and Middle Tennessee, respectively. For the 34th year G. M. Bentley will serve as secretary-treasurer. (Mr. Downey passed away a few days after the meeting. He was the victim of an automobile accident.—Editor)

## STORAGE HELPS

Now available through AMERICAN FRUIT GROWER Reader Service Bureau is information covering all phases of storage construction, from insulation to refrigeration equipment. When you write, give size of storage desired, the average temperatures in your locality at harvest time, and the length of time fruit is to be held in storage. Address Reader Service Bureau, AMERICAN FRUIT GROWER, 1370 Ontario St., Cleveland, Ohio.

Forty new members added to the association increased total society membership to 695.

Among addresses of outstanding interest was "The Persimmon Wilt" by R. Kent Beattie, principal forest pathologist, Bureau of Plant Industry, Washington, D.C. At present this disease is found only in six counties southeast of Nashville—nowhere else in the world has it been discovered, Dr. Beattie declared. There is, however, the possibility that it will spread over the entire wild persimmon crop of Tennessee and might infect the Japanese persimmon, although this variety may be resistant.

The disease is caused by some kind of fungus, apparently introduced. It starts by discoloring and wilting the leaves, then forming brownish black streaks in the wood, and, lastly, killing the tree.—G. M. BENTLEY, Sec'y, Knoxville.

INDIANA—Fruit growers over the State are availing themselves of the breathing spell between crop harvest and early pruning to hold a series of meetings in conjunction with extension men from Purdue University.

All is in readiness for the annual meet of Indiana Horticultural Society, January 11-13, at Purdue. An outstanding program has been planned and a large attendance is expected.

Much of the 1937 apple crop is in storage but those growers who have sold under the Hoosier "Seal of Quality" have been well pleased with the increased demand and higher prices they were able to command by use of the seal. A total of 200,000 bushels of apples was labeled with the "Seal of Quality" the past year.—R. L. WINKLEPLECK, Sec'y, Lafayette.

## CALENDAR OF COMING MEETINGS and EXHIBITS

**Jan. 5-7**—Illinois State Horticultural Society annual meeting, Centralia.—Joe B. Hale, Sec'y, Kell.

**Jan. 5-7**—Massachusetts Fruit Growers Association annual meeting, Memorial Auditorium, Worcester, in conjunction with Union Agricultural meetings.—Wm. R. Cole, Sec'y, Amherst.

**Jan. 11**—Vermont Horticultural Society annual meeting, Burlington, in conjunction with Union Agricultural Meeting and Farm Products Show.—M. B. Cummings, Sec'y, Burlington.

**Jan. 11-12**—Maryland State Horticultural Society annual meeting, Lord Baltimore Hotel, Baltimore.—A. F. Vierheller, Sec'y, College Park.

**Jan. 11-13**—Indiana Horticultural Society annual meeting, Purdue University, Lafayette, in connection with annual Agricultural Conference.—R. L. Winklepleck, Sec'y, Lafayette.

**Jan. 11-14**—New York State Horticultural Society annual meeting, Rochester.—Roy P. McPherson, Sec'y, LeRoy.

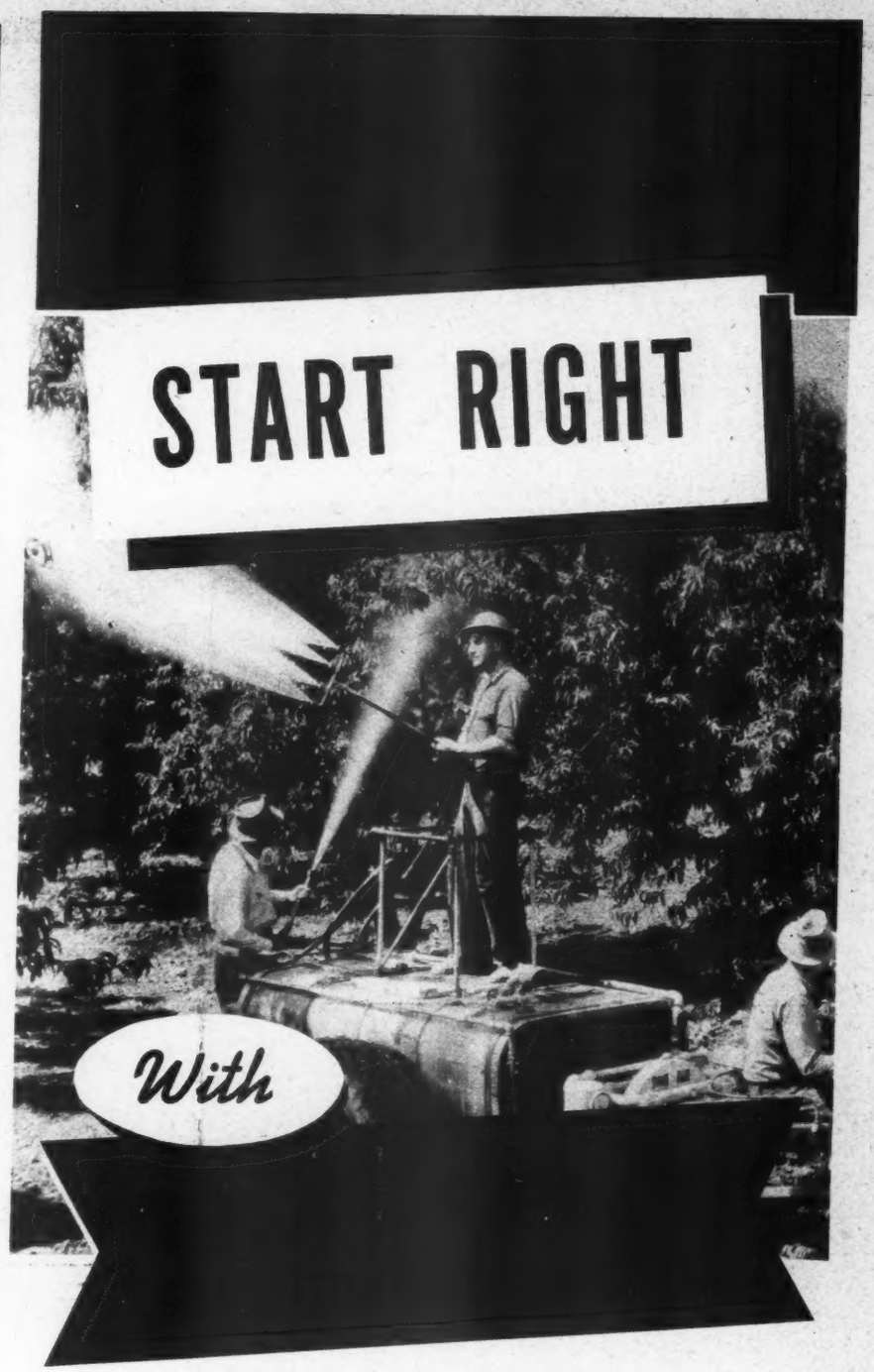
**Jan. 18-19**—Pennsylvania State Horticultural Association annual meeting, Harrisburg.—J. U. Ruef, Sec'y, State College.

**Jan. 24-26**—Ohio State Horticultural Society annual meeting first three days of Farmers' Week, Jan. 24-28, Ohio State University, Columbus.—F. H. Beach, Sec'y, Columbus.

**Jan. 26-28**—Idaho State Horticultural Association annual meeting, Boise Hotel, Boise.—Geo. L. Yost, Sec'y, Emmett.

**Jan. 26-28**—New York State Horticultural Society eastern meeting, Kingston.—Roy P. McPherson, Sec'y, LeRoy.

**Feb. 2-3**—West Virginia Horticultural Society 45th annual convention, Martinsburg.—Carroll R. Miller, Sec'y, Martinsburg.


• The early "bird" can get the worm and also the scab, scale and leaf roller by spraying while ground and weather conditions are favorable.

Where your program calls for Lime Sulfur try GRASSELLI. It is filtered clean, cherry-red in color, contains no sludge and has the proper amount of polysulfide content.

When you start on lead sprays, don't forget NuREXFORM is compatible with Lime Sulphur and GRASSELLI Arsenate of Lead is compatible with oils—two leads with definite advantages.

Plan your season requirements now with GRASSELLI Agricultural Chemicals.

**TOWNSEND'S STRAWBERRY PLANTS**

ROOTS LIKE THESE INSURE HEALTHY, VIGOROUS PLANTS

**INCREASE! Your Berry Profits At No Extra Cost To You!**

There's a big market today for strawberries and other small fruits. Cash in on this opportunity to make some nice profits.

Send for valuable **FREE** Booklet. Tells how world's largest growers of strawberry plants make it easy for you to grow strawberries and other leading small fruits. Describes and illustrates in color all principal varieties of **Strawberries, Raspberries, Blackberries, Dewberries, Grapes, Fruit Trees,** etc. Explains how we grow our selected strain Plants and help our customers. **Get double yields.** Our **GUARANTEE** gives you full protection.

Every fruit grower and gardener should have this **FREE** Book. **Send postal for yours NOW.**

**E. W. Townsend Sons**
**25 Vine Street, Salisbury, Maryland**

**NEW Rogers McINTOSH** — *The Apple of Tomorrow!* — *"A Solid Red Mac"*

Fruit same size as common McIntosh but covered with solid red; tender and juicy; better quality than the Common McIntosh.

Guaranteed Fruit Trees—All trees guaranteed hardy, healthy, and true to name—All Northern Grown.

Our 54th Year growing stock in our 400 acre nursery.

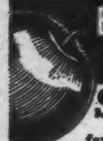
1938 Special Fruit Growers' Catalog now ready.

Trade Mark Registered

**MALONEY BROS. NURSERY CO., INC.**
47 Main Street, Dansville, New York

**MALONEY CATALOG FREE**

**BERRY PLANTS FRUIT TREES**



**SCARFF'S** "Best" new and standard varieties. Nearly 50 years of testing and growing in famous Miami Valley. Newest raspberries; Taylor and Marcy, largest reds; Indian Summer, a large and profitable over-bearer; Sodus, heaviest yielding of all raspberries. Large Red Lake Currants, Pearman Gooseberries, Whitesbog Blueberries, Thornless Youngberries, Boysenberries. Sensational New Fall-Bearing Cherry—delicious sweet cherries ripening in September. New "Hardee" Peach, New Miami Red Apple, Stanley Plum, Gorham Pear, Hardy Northern Nut Trees. Complete stock of the best Ornamental Trees, Shrubs and Evergreens. All are described in our 1938 catalog. Send for your FREE copy today.

**W. M. SCARFF'S SONS, Box 131, New Carlisle, Ohio**

**STAHELIN'S MONEY-MAKING STRAWBERRIES**

**PRODUCE EARLIER—YIELD HEAVIER**

Than ordinary plants because they are Northern Grown. Guaranteed young, strong-rooted and vigorous. All dependable varieties.

**BLUEBERRIES • RASPBERRIES**
**BLACKBERRIES • FRUIT TREES**
**MAGNOLIAS • HEDGING • ROSES**

And other reliable Nursery items. Prices lowest for quality. Special quotations on large orders. Catalog free.

**STAHELIN'S NURSERY, BOX 22, BRIDGMAN, MICH.**

**$1 STRAWBERRY PLANT VALUE FOR 10¢**

To introduce SENSATIONAL GIGANTIC JEWEL STRAWBERRY, we will ship you prepaid, 25 BIG STURDY PLANTS (regular price $1.00, plus postage) for ONLY 10c. Enormous yield, high as 2 QTS. per plant, 40-day fruiting season, mammoth delicious berries. Send 10c (coin, stamps) today for 25 plants and 48th Annual FREE CATALOG showing finest fruits, flowers in natural colors—all at amazing low prices. BRADLEY BROS., Dept. 112, CARBONDALE, ILL. (90,000 satisfied customers since 1890.)


# STRAWBERRY CULTURE

*(Continued from page 8)*

were set with plants from the six yellows-free fields. At the end of the season, 14 of the new fields were yellows-free, 43 fields had less than one per cent yellow plants, and three fields between one and two per cent. Yellows-free stock of Blakemore was also reported from Maryland and Tennessee last season.

We suppose that soon after the Blakemore was selected, a change or sporting occurred in some plants, but not in others, and that this sporting did not show in the plants for several years. From the plants that did not sport at that time we suppose the non-yellowing stocks have come.

This trouble has been known among strawberry varieties for more than 40 years, but has not been thought of as serious until within the last 15 years. It has proved to be of major importance in the Blakemore, Howard 17, Van Dyke, Minnesota No. 3, and many selections resulting from breeding work. Varieties such as Columbia, Eaton, and others have been discarded because of this yellow variegation. No records of the trouble have been noted for Klondike, Missionary, Dorsett, Dunlap, Parsons Beauty (Gibson), Aroma, and Marshall.

Strawberry yellowing is considered to be a genetic trouble resulting from a mutation. At the present time much information is needed on its source and control. The first step in working out a control for this condition is the location of resistant Blakemore and Howard 17 plants. When such plants are found, stocks must be propagated and disseminated for general use. The U.S.D.A. is optimistic and looks forward to a solution of the problem through control measures and breeding experiments.

In the fall, strawberry plants have semi-woody crowns containing fruit buds in the tips protected by folded leaves. As the plants develop in the spring, leaves unfold, flowers develop from the fruit buds, resulting in fruit clusters as final development. Strawberry plants gradually harden to low temperatures as the fall season progresses. As the temperature becomes lower and lower, the plant's hardiness increases.

Because of the development of this hardiness, low fall temperatures are apt to be most injurious, since they strike before the plant develops cold resistance. But in some cases winter temperatures may be low enough to kill the plants even after they have hardened.

One of the most important causes of plant loss due to low temperatures is injury to crowns and roots. Especially is this true in northern strawberry sections. In most northern localities where strawberries are produced on a commercial scale, early mulching for protection against cold will pay growers. Mulching is just as valuable in the South for conserving moisture and to keep berries clean.

Materials most generally used for mulching in the North are straw and wild marsh hay. Pine needles provide the most popular mulch in the South. When straw is used, about three tons to the acre, spread uniformly at least by November 15, should be enough for plant protection. A good six-inch blanket of snow would give similar protection if it were to remain over the berries, but in most sections this amount of snow is not a permanent cover.

Just before growth starts in the spring, the straw should be raked off the tops of the plants and left in the alleys between rows.

Crown injury is more common than root damage and the lower part of the crown may be entirely brown if the injury is severe. When extreme low temperatures prevail, roots may turn black after freezing. This condition is often called "black-root." Good mulch will give white crowns and roots in the spring.

**STRAWBERRIES PAY** Allen's 1938 Berry-Book Describes Best Methods, Plants, Varieties: Premier, Fairfax, Dorsett, Catskill. *COPY FREE WRITE TODAY*

**THE W. F. ALLEN CO.**
**284 Evergreen Ave., Salisbury, Md.**

**FRUIT TREES AND FRUIT PLANTS**

In the newer and better varieties grown by Virginia's largest growers. Write for Free Copy 44-page Planting Guide, listing more than 800 varieties of Fruits and Ornamentals.

**WAYNESBORO NURSERIES,**
**WAYNESBORO, VA.**

**Peach and Apple Trees**

Wholesale Price to Consumer Guaranteed and examined. True to name. All new experiment station sorts. Write for 1938 catalog today. 45 years leading fruit tree nurseries.

**Allen's Nurseries & Seed House**
**Box 6, Geneva, Ohio**

**FREE!** AMERICA'S MOST BEAUTIFUL *Nursery and Seed* BOOK

AMERICA'S LARGEST DIRECT-TO-YOU NURSERIES. For something new, different, better, get this FREE book. Newest, choicest flowers, fruits, seeds, shrubs. World's Fair Roses, etc., in full color. Guaranteed stock. Low prices. Write today. **Inter-State Nurseries, 2318 E. St., Hamburg, Ia.**

**BLUEBERRIES** A PROFITABLE ORNAMENTAL

Be the first to raise CULTIVATED BLUEBERRIES. The coming sensation. Very ornamental. Exquisite white blossoms; leaves change from green to red; grows 6 ft. tall. Eat delicious jumbo sized berries with cream. Two to four bushes will supply average family with mouth-watering blueberry pies all season. Big money-maker for planters. Sell from 50c to 75c a quart. Fully described in our catalog of over 100 real bargains in plants, trees and shrubs. Write now.

**Whitton-Ackerman Nursery, Box 239, Bridgman, Mich.**

**KINKADE GARDEN TRACTOR**
**and Power Lawnmower**

A Practical Power Plow and Cultivator for Gardeners, Suburbanites, Florists, Truckers, Nurserymen, Fruit Growers

Catalog Free

**Low Prices - Easy Terms**
**American Farm Machine Co.**
**1105 33rd Av. SE. Minneapolis, Minn.**

Some protection is provided by the foliage of plants in well-matted rows. Exposed and young plants are most easily injured.

One major factor that is often overlooked when considering frost damage to strawberries is the presence of heat given off by freezing soil water. This heat may be important in giving plants early frost protection. In most cases light, dry soils give the greatest injury. It has been noted that moist Maryland soils provide some protection.

## RASPBERRIES

*(Continued from page 9)*

the interesting statement that Cuthbert and Ranere are the only important varieties of red raspberry now grown that originated as chance seedlings.

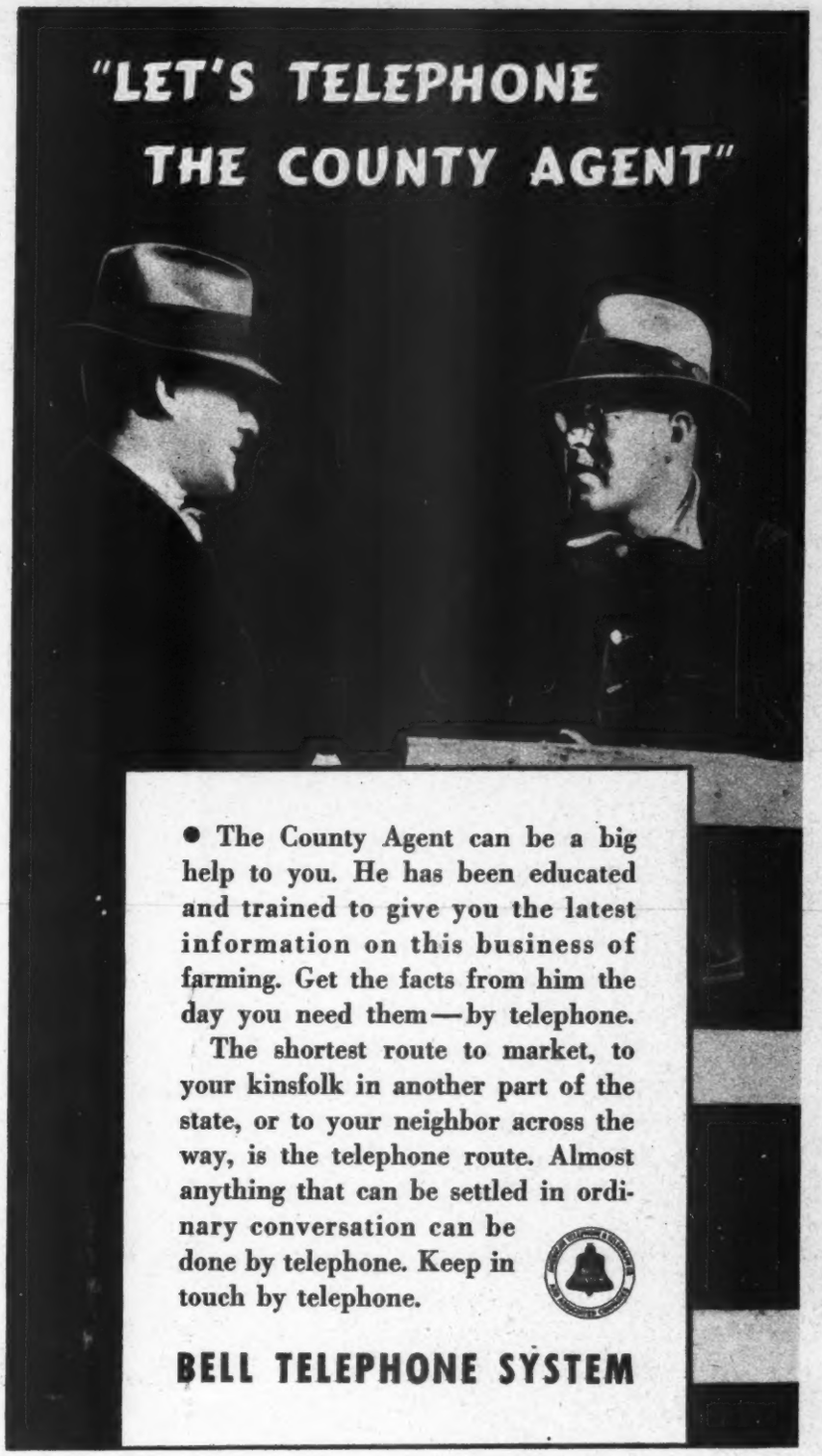
The Marlboro, bred by A. J. Caywood of Marlboro, N.Y., before 1880 —it is said, by crossing Caywood seedling with Highland Hardy—was the leading variety for some years and is even now grown to some extent in western Washington. In Canada, the Herbert, originating in 1887 in the garden of R. B. Whyte of Ottawa, was one of the first good varieties from that section.

Several public agencies established fruit breeding projects prior to 1900. Pioneers in this work were the Iowa, New York, South Dakota, and Wisconsin State experiment stations, and the U.S.D.A. We find that more than a score are now actively engaged in the breeding of new raspberry varieties.

Probably the first red raspberry of value, originated and introduced as a result of experiment station activities, was the June, brought out by the New York station in 1909. Its superior qualities are its bright red fruit color, earliness, and productivity. Its faults are lack of adaptation to the lighter soil types, a tendency to produce too few new sucker plants, and susceptibility to mosaic, resulting in severe injury to the plants. In spite of its faults, the variety is profitably grown in New York because of its earliness.

The second experiment station introduction of importance was the Ohta, renamed Flaming Giant, by a commercial nursery. This variety was originated by the South Dakota station and introduced in 1912. It was especially recommended because of its hardiness in some of the colder sections, as in the Dakotas. It is grown to a limited extent in some northern regions and even as far south as the Paducah, Ky., section, where, according to W. W. Magill, it "is winning in popularity due to the fact that it grows without spraying and ripens a week to 10 days earlier than Latham."

*(To be continued in February issue)*


• The County Agent can be a big help to you. He has been educated and trained to give you the latest information on this business of farming. Get the facts from him the day you need them—by telephone.

The shortest route to market, to your kinsfolk in another part of the state, or to your neighbor across the way, is the telephone route. Almost anything that can be settled in ordinary conversation can be done by telephone. Keep in touch by telephone.

BELL TELEPHONE SYSTEM

***Micronized* Wettable Sulfur**
(Average Particle Size—4000 Mesh)
***Micronized* Sulfur Dusts**
(Average Particle Size—2000 Mesh)
**Micronizer Processing Company, Inc.**
Moorestown, N.J.

**RASPBERRY PLANTS**
RED AND BLACK 2 YEAR OLD. Transplants. Save a year. Berries in 3 months after planting. Lowest prices. Also Blackberry 1 year 25 for 50c. 4 Elberta Peach, 3½ ft. high $1.00. Over 100 bargains in our catalog. Big cash discount for early orders or will ship express C. O. D. if you prefer. Examine stock before you pay. Write today.
Whitten-Ackerman Nursery, Box 238, Bridgman, Mich.

**WESTCO TURBINE PUMPS**
WORLD'S SIMPLEST ELECTRIC PUMP—Nothing to wear or cause trouble. 28-foot suction lift. Operates cheaply. Money-back guarantee. Write for FREE catalog. MICRO-WESTCO, Inc., Bettendorf, Iowa, Dept. 51
ONLY ONE MOVING PART

**Be a *McNess* Man**

**No Time Like Now to Get in..**
**Make up to $75 a week**
It's no trick to make up to $12 a day when you use your car as a McNess "Store on Wheels." Farmers are buying everything they can from McNess men. Attractive business-getting prizes, also money-saving deals to customers make selling McNess daily necessities a snap. This business is depression-proof.
Use Your CAR to Raise Your PAY
**We Supply Capital—Start Now!**
There's no better work anywhere—pays well, permanent, need no experience to start and we supply capital to help you get started quick. You start making money first day. Write at once for McNess Dealer Book—tells all—no obligation. (92-B)
THE McNESS CO., 561 Adams St., Freeport, Ill.

CUT HIGH BRANCHES
REMOVE WORMS NESTS ETC., EASILY
with the
TIP TOP
TREE TRIMMER
It's easy to "keep your trees in shape" with this sturdy tool. A pull of the cord easily cuts 1" branches — saw blade cuts larger limbs. Ideal for high or low work; can be adjusted to 4, 8, or 12 ft. lengths. Complete with saw — $3.50, or without saw—$2.50—at dealer's or direct.
FREE! With each pruner we give you this 40 page book telling you how, when, what to prune—For book only send 10c.
Free circular.
SEYMOUR SMITH & SON, INC.
61 Main St., Oakville, Conn.

Standard Garden Tractors
1 & 2 CYLINDERS
Plow
Seed
Cultivate
Mow Hay and Lawns
Powerful 1 and 2 Cylinder Tractors for Small Farms, Gardeners, Florists, Nurseries, Fruit and Poultry Men.
THREE SIZES
With Ample Power for Field, Haying and Truck Crop Tools. Run Pumps, Saws & Belt Machines.
Steel or Rubber Tires
High Wheels-Enclosed Gears.
LOW PRICES
Write for Easy Terms Plan and Free Catalog
STANDARD ENGINE CO.
Minneapolis, Minn. 3211 Como Ave.
Philadelphia, Pa. 3448 Market St.
New York, N. Y. 206 Cedar St.

FOR FINER FRUIT
Wiss Hy-Power Pruner
WISS
PRUNERS
LOPPING SHEARS
THINNING SHEARS
A Pruner for Every Purse and Purpose
Write for Full Particulars
Famous for Quality Since 1848
J. Wiss & Sons Co.
NEWARK, N.J.

"TIFFANY" PRUNERS
Cut 1¼" limbs and work in narrow places. Sharp hook does not bruise.
Light, simple, and powerful. Tough alloy steel levers will not break or bend.
No More Handle Trouble
"TIFFANY"
Hammer Forged Pruners
cut easy and stand the strain. Length 24 in., wt. 2½ lbs. Price $3.00 prepaid. Satisfaction guaranteed. Circular of Grafting Tools, Bark Scrapers, Pole Pruners, Briar Hooks and Hand Pruners. Dealers wanted.
C. R. TIFFANY, Mfr., CONKLIN, N.Y.

FACTORY TO YOU
WRITE for FREE CATALOG
NEW SUPER-QUALITY
KITSELMAN FENCE
Heavier, amazingly improved galvanizing. Tougher, longer-lasting Copper-Bearing Steel. Low Factory Prices. WE PAY FREIGHT. 100 styles and heights Farm, Poultry and Lawn Fence; Steel Posts, Gates, Barb Wire, Paints, Roofing. Write today.
KITSELMAN BROTHERS
Dept. 206
Muncie, Indiana

## Nut Varieties for St. Paul Area

THE varieties of nut trees which are hardy and will produce nuts in the northern tier of states is somewhat limited and many of the varieties from the more southerly regions are lacking in hardiness or fail to mature nuts because of the shorter growing season. For this reason contributions to the knowledge of varieties adapted to this region are always welcome. At the last meeting of the Northern Nut Growers Association held in Washington, D. C., Carl Weschcke of St. Paul, Minn., reported on the merits of the walnuts and hickories he has tested.

Native nuts are butternuts, bitternut hickories, and hazels. The butternuts bear heavily, but are frequently caught by late May frosts. However, where a crop sets it usually matures before frost in autumn. During severe drought it drops the nuts, thus preserving the tree.

The Ohio black walnut will mature nuts when grafted on black walnut stocks, but will not when grafted on butternut. The Stabler is an almost certain producer, maturing its nuts ahead of the Thomas variety. The quality and cracking quality of Stabler are excellent. Mr. Weschcke attributes the fine performance of Stabler to its being grafted on Minnesota black walnut seedling roots, since some Stabler trees grafted on eastern black walnut are less satisfactory. Ten Eyck is also a satisfactory variety.

Hickories, although more difficult to start than black walnuts and requiring more care in the selection of the soil, are, however, more hardy than the improved varieties of black walnuts. The Beaver, Fairbanks, and Weschcke hickories have been hardy for 10 years and in bearing for five years. Other hickories that are hardy but not yet in bearing are Burlington, Rockville, Hagen, Siers, Laney, and Kirtland.

Japanese walnuts from British Columbia grafted on Minnesota seedling black walnuts are hardy and produce good crops of good looking, fine flavored nuts. These mature before black walnuts and start growth rather early in the spring.

Mr. Weschcke considers the best soil for nuts to be a deep sandy loam, and the best site about half way down the hill if near a ravine or rolling topography. The top of the hill is too exposed and the bottom too subject to frosts.—GEORGE L. SLATE, *Sec'y*, Northern Nut Growers Association, Geneva, N. Y.

## NURSERY STOCK

EVERY SINGLE TOWNSEND FRUIT TREE COMES "Sealed-To-Type." They cost no more than ordinary trees but what a difference they make in your profits. Send for your copy of Free Booklet. Tells all about this new Townsend "Sealed-To-Type" system and how it insures you against poor fruit. All leading varieties of Apples, Peaches, Pears, Plums. Also describes and illustrates in colors, new, better paying varieties of Strawberries, Raspberries, Grapes, Blackberries, bred for heavier yields by the World's Largest Growers and Shippers of Strawberry plants. This book is valuable to every Fruit Grower and New Beginner. Write today for your Free Copy. E. W. TOWNSEND SONS NURSERIES, 21 Vine Street, Salisbury, Maryland.

FRUIT TREES AND BERRY PLANTS. WE OFFER one of the most complete listings of new and tested improved varieties of fruits and berries available. Millions of triple inspected, hardy, well-rooted, thrifty trees and plants, grown under ideal soil and climatic conditions, backed by 50 years production experience. Fruit and berry growing are among the Nation's best paying crops. It pays to plant Bountiful Ridge Grown trees and plants. Proved best by test. Write for 1938 complete catalog. BOUNTIFUL RIDGE NURSERIES, Dept. 9, Princess Anne, Maryland.

FREE! AMERICA'S MOST BEAUTIFUL NURSERY and seed book. Full natural colors. Amazing new low prices on finest, heavy bearing apple and other fruit trees. Greater values, better service and a sincere desire and effort to please you has made us America's largest Direct-To-You Nurseries. Guaranteed stock. Low prices. Write INTER-STATE NURSERIES, 29 E. Street, Hamburg, Iowa.

FRUIT TREES—IN A LARGE ASSORTMENT OF sizes and varieties, including the New Double Red Varieties of Apple. We offer for Spring Delivery 200,000 each Apple and Peach, as well as a complete line of Small Fruits and Ornamentals. Write for a Free Copy of our 44-Page Catalogue and New Price List. WAYNESBORO NURSERIES, INC., Waynesboro, Virginia.

FOR SALE: APPLE SEEDLINGS, APPLE ROOT grafts, both old and new varieties. Apple and peach trees. JONES NURSERY COMPANY, Woodlawn, Virginia.

AMERICA'S NEWEST IMPORTED MUSCAT TABLE and Wine Grape. Ripens June first. Cuttings for sale. JOHN FURRIER, Livingston, California.

NEW VARIETIES! PEACH AND APPLE. CATALOGUE Free. MARKHAM, Fruit Breeder, Xenia, Illinois.

## OPPORTUNITY ADS

Only 15c a Word—CASH WITH ORDER
ADDRESS: AMERICAN FRUIT GROWER,
1370 Ontario Street, Cleveland, Ohio

### BEES

BEES—GOOD SIDE LINE, PLEASURE, PROFIT. Send $1.00 for 190 page book, "First Lessons in Beekeeping," and one year subscription. Catalog free. AMERICAN BEE JOURNAL, Box G, Hamilton, Illinois.

### BERRY PLANTS

200 BLAKEMORE OR DUNLAP STRAWBERRY plants delivered, $1. Millions of plants; rockbottom prices. Free Catalog on Strawberry, Youngberry and Boysenberry. WALLER BROS., Judsonia, Arkansas.

NECTARBERRIES, MAMMOTH, SWEET, LAST TWO years yielded twice Boysenberries. Thornless Loganberries, Thornless Youngberries. BENEDICT RANCHO, 1007 Deana Road, El Monte, California.

YOUNGBERRY PLANTS. STATE INSPECTED AND certified. $1.25 per hundred postpaid. WALLACE FITZGERALD, Charleston, Arkansas.

BLAKEMORE, AROMA, KLONDYKE, MISSIONARY strawberries: $2.50 thousand. Dorsetts, Bellmars: $3.00. SHELBY PLANT FARMS, Memphis, Tennessee.

### CROTALARIA SEED

CROTALARIA SEED: SPECTABILIS, INTERMEDIA and Striata. Also Alys Clover. GRAND ISLAND NURSERIES, Eustis, Florida.

### EVERYTHING FOR THE ORCHARD

PRUNING, GRAFTING, BUDDING TOOLS—KNIVES, Saws, Shears, Hand and Pole Pruners, Jones Patch Budders, Waxes, Wax Melters, Raffia, Rubber Budding Strips, Medicated J. & J. Nursery Tape, Tree Seal, Tree Kote, Tree Surgeon Supplies.

SPRAYERS, DUSTERS, MATERIALS—POWER AND Hand Sprayers. Spray Materials and Dust Mixtures. Hand and Power Dusters. Sprayer Accessories, Guns, Rods, Nozzles, Hose. Weed Killers, Wood Preservatives, Hydrometers, Hygrometers, and Magnifiers.

GROWING AND HARVESTING EQUIPMENT—Cultivating Equipment. Ladders, Picking Bags, Baskets and Buckets, Orchard and Storage Crates, Wire Pickers, Pickers' Tickets.

FRUIT PACKING EQUIPMENT AND SUPPLIES—Conveyors, Graders, Washers, Dryers, Polishers, Washing Chemicals, Caps, Liners, Cushions, Wraps, Shredded Oil Paper, Basket Turners, Jiffy Lidders, Barrel Presses, Nails, Hatchets, Stencils, Stamps, Ink, Brushes, Nail Strippers, Sizing Rings, Labels, and Paste. Cider Presses and Containers. Apple Butter Cookers, Shipping and Display Packages. EDWIN C. TYSON, Wholesale and Retail, Flora Dale, Pennsylvania.

### FARMS WANTED

WANTED—TO HEAR FROM OWNER OF FARM OR unimproved land for sale. WILLIAM HAWLEY, Baldwin, Wisconsin.

### FOR SALE

ONE OF OHIO'S FINEST ORCHARDS. NEARLY 4000 apple trees. Fully equipped. Must be sold. Write THOMAS J. BARRETT, Delaware, Ohio.

FOR SALE OR LEASE SEVENTY ACRE APPLE orchard with equipment. W. C. MYERS, 4114 North Dixie Drive, Dayton, Ohio.

### HAY, GRAIN, PRODUCE

WANTED—HAY, GRAIN, PRODUCE. CARLOADS. Pay the highest market prices. THE HAMILTON CO., New Castle, Pennsylvania.

### MISCELLANEOUS

EVENTUALLY YOU'LL LIVE IN FLORIDA. KEEP in touch with its agricultural opportunities by subscribing to its leading citrus and truck magazine. 50c per year; 3 years, $1.00. FLORIDA FARM AND GROVE, Jacksonville, Florida.

### PATENTS

National Trade Mark Company
Munsey Building
Washington, D. C.
Trade Mark Specialists

### PHOTO FINISHING

ROLLS DEVELOPED—TWO BEAUTIFUL DOUBLE Weight Professional Enlargements, 8 Never Fade Prints, 25c. CENTURY PHOTO SERVICE, La Crosse, Wisconsin.

### SERVICES

TREE GRAFTING, BUDDING AND PRUNING IN season. Write now. HOWARD H. MARTIN, Princeton, Illinois.

### SITUATIONS WANTED

Available February 1
Orchard Manager
Apples and Peaches
Experienced—Capable
1937 Crop Estimated 98% Clean
Box 123
AMERICAN FRUIT GROWER
1370 Ontario St., Cleveland, Ohio

### WANTED

WANTED—A PROMINENT FRUIT GROWER IN EACH community to handle our extensive line of Fruit Trees and Berry Plants. Liberal cash commission paid weekly. Send for Free Catalogue and terms. WAYNESBORO NURSERIES, INC., Waynesboro, Virginia.

# NEW

- PORTABLE REFRIGERATOR
- WATERPROOFING MATERIAL
- PIPE FITTINGS

By HANDY ANDY

**The start of the New Year is a good time to think about new products and equipment that will help fruit growers with their everyday operations. It seems that no matter what the trouble or need may be, there is something new that will take care of it if we can just find what that something is. That's what I'm trying to do here, and I'll appreciate any of your new ideas. Send them to me in care of AMERICAN FRUIT GROWER, 1370 Ontario St., Cleveland, Ohio.**

## PORTABLE REFRIGERATOR •

Handling of perishable fruits has always been a problem and fruit that reaches the market in poor condition is a detriment to the sale of a quality product.

Just introduced is a portable refrigerator unit that permits efficient handing of less-than-car lot shipments of perishables. This unit is adapted for shipment in railroad box

cars for long or short hauls, in trucks, or for combinations of rail, truck, and water shipments.

The accompanying photo shows the easily accessible ice container in the top-back of the unit. Its light weight makes it possible for two men to move it with ease under a capacity load. Capacity of the refrigerator is 160 cubic feet, and weight limit of the load is three tons. The icer has a capacity of 200 pounds of dry ice with an induction plate measuring 50 inches in length and 15 inches in width.

## WATERPROOFING MATERIAL •

A new waterproofing material just anunounced is mixed with water for application to any damp surface. This new material should be of interest to fruit growers having leaky walls in storages and other buildings.

Two coats of the material are applied with an ordinary white-wash brush. Application can be made without first chipping the wall as would be necessary if regular plaster were used. The material will waterproof and damp-proof a wall from the inside. There is no especial knowledge needed for application, for the procedure is simple, as described above.

While moisture is a desired factor in the underground fruit storage where the fruit is cooled by air, the installation of refrigeration equipment will make it necessary to cut down on the amount of moisture present in the storage room. Air and moisture are often circulated by blowers or fans. Too much moisture may cause storage diseases.

A leaky truck top always means a lot of trouble, especially when the truck is loaded with fertilizer, spray materials, etc., where the water will cause weakening of paper bags. Small leaks can be stopped by applying a recently developed cement. The new cement can also be used when the canvas is new as it lubricates the fibres of the fabric permitting stretching as the canvas is cemented on. The cement is offered in half-pint to gallon cans and in five-gallon steel pails.

## PIPE FITTINGS •

Growers who have worked with tedious pipe threading will be interested in pipe fittings. Ends of pipes fit into the couplings, the nuts on the fittings are tightened, and a strong union is the result.

Extreme exactness of pipe lengths is not always needed because the fitting spans variations in space between pipe ends. The fittings can be reused when the need arises and are not lost when pipe-lines are dismantled.

Pipes to be used with the fittings must have plain ends. A certain amount of flexibility is given to the joint when the fittings are used. Fittings are supplied in black or galvanized finishes and are especially made for use with air, gas, oil, chemicals of a non-corrosive nature, and water.


FOR BIGGER FRUIT PROFITS

**Feed Your Trees with this Quick-Acting, Long-Lasting, LOW COST form of NITROGEN**

EXPERIENCED orchardists find the *most economical* way to supply nitrogen is by using Domestic Sulphate of Ammonia. Apply 3 to 10 lbs. per tree, depending on size, tree condition, and method of culture—about the time buds begin to swell.

Domestic Sulphate of Ammonia is rich in nitrogen (20.5% guaranteed)—all soluble, all available. And its *low cost* per unit of nitrogen assures exceptional economy and high profit returns.

Order your requirements early through your regular fertilizer dealer.

THE BARRETT COMPANY
40 Rector St.
New York, N. Y.

Barrett FERTILIZER MATERIALS

Domestic SULPHATE OF AMMONIA

# SUCCESSFUL ORCHARDS

## ● A "ROUND TABLE" PAGE FOR EVERY GROWER ●

This page is a place for growers to get together and exchange experiences and ideas. The beginner, as well as the veteran, will find here many practical suggestions for better and more profitable fruit growing. In return for the helps you receive from this page, be ready to pass on, for the benefit of others, any new idea, method or procedure you have developed or run across. Just jot it down as it occurs to you (a postcard will often do) and mail it to the "ROUND TABLE EDITOR," AMERICAN FRUIT GROWER. Don't worry about fancy writing. What the readers of this page want are practical pointers—that are to the point.

### SELLS APPLES OVER RETAIL MARKET STANDS

T. I. HOSLER, northern Indiana grower, has for several years sold his apples at stands in three retail markets of Ft. Wayne. Mr. Hosler is apparently a booster of this method of sales, for he says:

"While we may sometimes have trouble in moving fruit from the market stands, there is usually a good trade which more than makes up for the cost of hauling fruit to the market and rental for the stands. Also, there is always the opportunity of building up a good business with customers who come to the markets regularly.

"We have 15 acres of apples, with a few cherries, plums, and a small planting of berries. These fruits also are sold at the stands, but the big trade is in apples. Our orchard is in sod which we try to supplement with straw mulch whenever possible."

Mr. Hosler further states that he uses a tractor for power in the orchard and follows his experiment station spray advice.

### EXPERIENCES WITH ORCHARD IRRIGATION

VIRGINIA fruit grower, Frank H. Wissler, has carried on irrigation practices in his orchard for some time and his observations come from practical experience.

"Our source of water supply is the Shenandoah River. The orchards are situated on a plateau, the highest point of which is about 92 feet above the river. Our pump is a centrifugal which is connected direct to a 50 horse power electric motor. The delivery pipe is eight-inch bell and spigot cast iron equipped with tees and three and five-inch valves at desired points. Delivered water is from 900 to 1000 gallons per minute. I can water about 140 acres with my present plant.

"Under my conditions I have found it best to cover as much of the ground with water as possible. I take water from the hydrants which are located on the high points and lead it into a head ditch to a number of rows at a time. We allow a comparatively small amount of water to run down each row for a long time rather than a flood for a shorter time. I prefer to irrigate over sod rather than cultivated land as I get better penetration and much less erosion.

"As to quantity of water applied and the frequency of application, I would say that given fairly level ground and good penetration, it will take about 2000 gallons to the tree every two or three weeks, while close by there may be a spot that will require water in smaller amounts once a week. Ours is supplementary irrigation and what we do is dependent on natural rainfall, temperature, and wind.

"An increase of only three-eighths of an inch in the size of apples will double the volume. With a constant water supply I do much less thinning and still produce large fruit. An apple whose growth has never stopped from lack of moisture does not seem to be as susceptible to disease and blemish as a devitalized apple. I notice reduction particularly in russeting.

Harry E. Lutz is shown below trying out one of his newly-painted picking ladders. His ladders are protected with a coating of aluminum paint.

### USES ALUMINUM PAINT FOR EQUIPMENT PROTECTION

"EXPERIENCE," says Harry E. Lutz, Ohio orchard operator, "has shown me that aluminum paint works well for the protection of equipment used outdoors, such as ladders, etc. It seems to be especially resistant to wear and weathering and has given us good results."

As Mr. Lutz has pointed out, aluminum paint seems to be doing a good job in protecting orchard equipment. Your "Round Table" editor has noticed that several fruit growers have been using this paint in many ways about their fruit farmsteads and it is apparently doing a good job for them.

A photo of Mr. Lutz on one of his aluminum-painted ladders appears at bottom of center column on this page.

### "SIT-DOWN" TROUBLE INVADES ORCHARD

THE Michigan orchard of Henry Haga is made up of 40 acres of Montmorency, Schmidt, Windsor, and Napoleon cherries. He also has a few pears and plums. Most of the cherries go to the cannery. Up to last season Mr. Haga had no more than the usual trouble with pickers, but last summer there was one picker who caused him concern. He says:

"Just when we were busiest with moving cherries from the orchard to the canning company, one of our women pickers began to complain about the wages we were paying. Our wages were about the same as that being paid in other orchards around us and we thought they were fair for the prices being received for the cherries.

"This woman kept complaining for two or three days and the young man who had charge of the pickers came to me about it. I told him that the rest of the pickers were satisfied and not to pay any attention to the trouble-maker. But a day or so after this the woman grew loud in her discontent and started a campaign for a "sit-down" strike in my orchard. Finally we were forced to discharge the worker and after that there was no trouble in the way of strikes."

### APPEAL DIRECTLY TO CONSUMERS

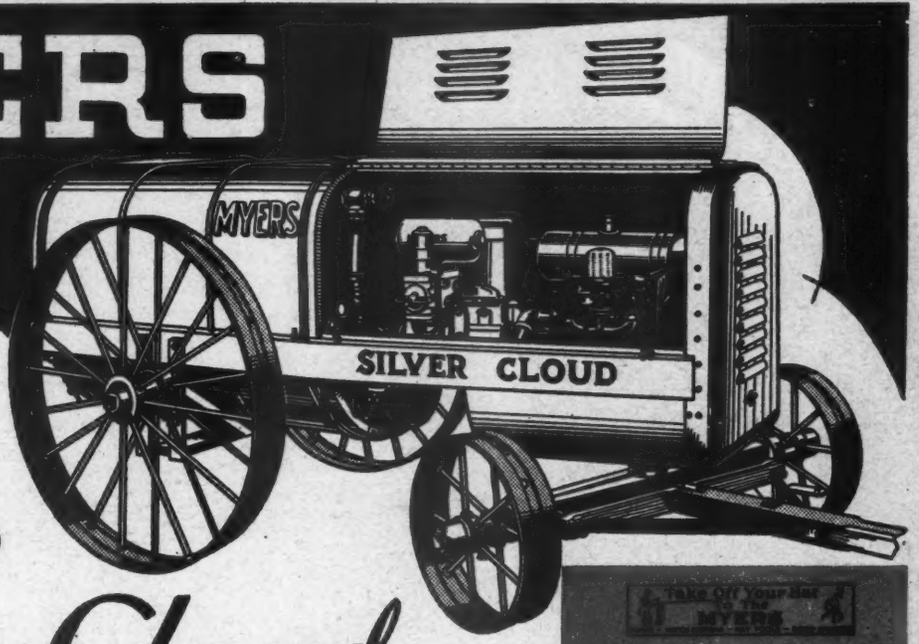
PERRIN and Thompson, Florida growers and shippers of oranges and grapefruit, use letters and descriptive folders to sell their fruit to consumers. The first paragraph in their sales letter reads:

"Oranges and grapefruit right off the tree! If you have ever been in Florida and eaten fruit you picked from the tree, you will remember how good it tasted. You said, 'I never ate fruit like this before.' If you have never eaten fruit like this, you have a real treat awaiting you."

The remainder of the letter tells more of the quality of the fruit and how the consumer can order by filling in an enclosed card.

# MYERS

*Announces*

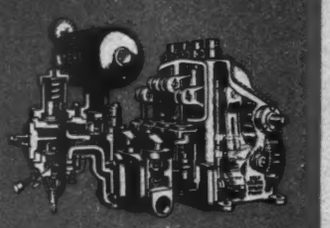



## THE NEW STREAMLINED

# *Silver Cloud* POWER SPRAYERS

SERVICE to three generations of orchardists and growers has brought MYERS an outstanding reputation as headquarters for the world's largest and most complete line of reliable spray machinery. To this array, the newly announced MYERS *Silver Cloud* Power Sprayers make a truly notable addition. Here is a series designed expressly to meet the needs of heavy duty spray users; models which progressively embody the most desirable improvements revealed by modern engineering practice. The gleaming aluminum finish and smoothly contoured outlines of these *Silver Cloud* Sprayers are indeed significant of their superb efficiency and smooth functioning in every mechanical detail. Backed by all the reliability for which MYERS products have so long been famous, *Silver Cloud* Power Sprayers combine to a very high degree those proven features which mean greater ease and simplicity of handling, greater speed and economy of operation, greater ruggedness and protection for your investment. Be sure to inform yourself about the many advantages they offer.

Additional details regarding MYERS *Silver Cloud* Sprayers are given elsewhere in this advertisement. The MYERS Spray Catalog is a veritable textbook of spraying information. It shows the complete MYERS line for work in orchards, groves, vineyards, row crops, fields and gardens. Engine powered sprayers, traction driven sprayers, and tractor operated sprayers; hand operated bucket and barrel sprayers, knapsack and compressed air sprayers; tobacco sprayers, berry and green-house sprayers, garden sprayers. Mail handy coupon today for FREE copy.



No other power spray pump has the perfect lubrication and proven service life you will find in these famous MYERS *Self-Oiling* Pumps. All working parts run in oil and are fully enclosed —yet are remarkably accessible for control and adjustment. VALVES stainless steel. CYLINDERS porcelain lined. PLUNGERS improved double cup expansion type with adjustable take-up. Duplex, Triplex and Quadruplex sizes according to capacities required.

MYERS *Silver Cloud* Power Sprayers are offered in both engine powered and tractor operated models of varying sizes and capacities. All models come completely equipped with hose, guns and fittings and are furnished with either steel or rubber-tired wheels. Frames are all steel, arc welded. Be sure to see these new MYERS *Silver Cloud* Sprayers before you buy.

# MYERS

## Self-Oiling POWER SPRAYERS

**THE F. E. MYERS & BRO. CO.**

45 Church Street — Ashland, Ohio

"PUMP BUILDERS SINCE 1870"

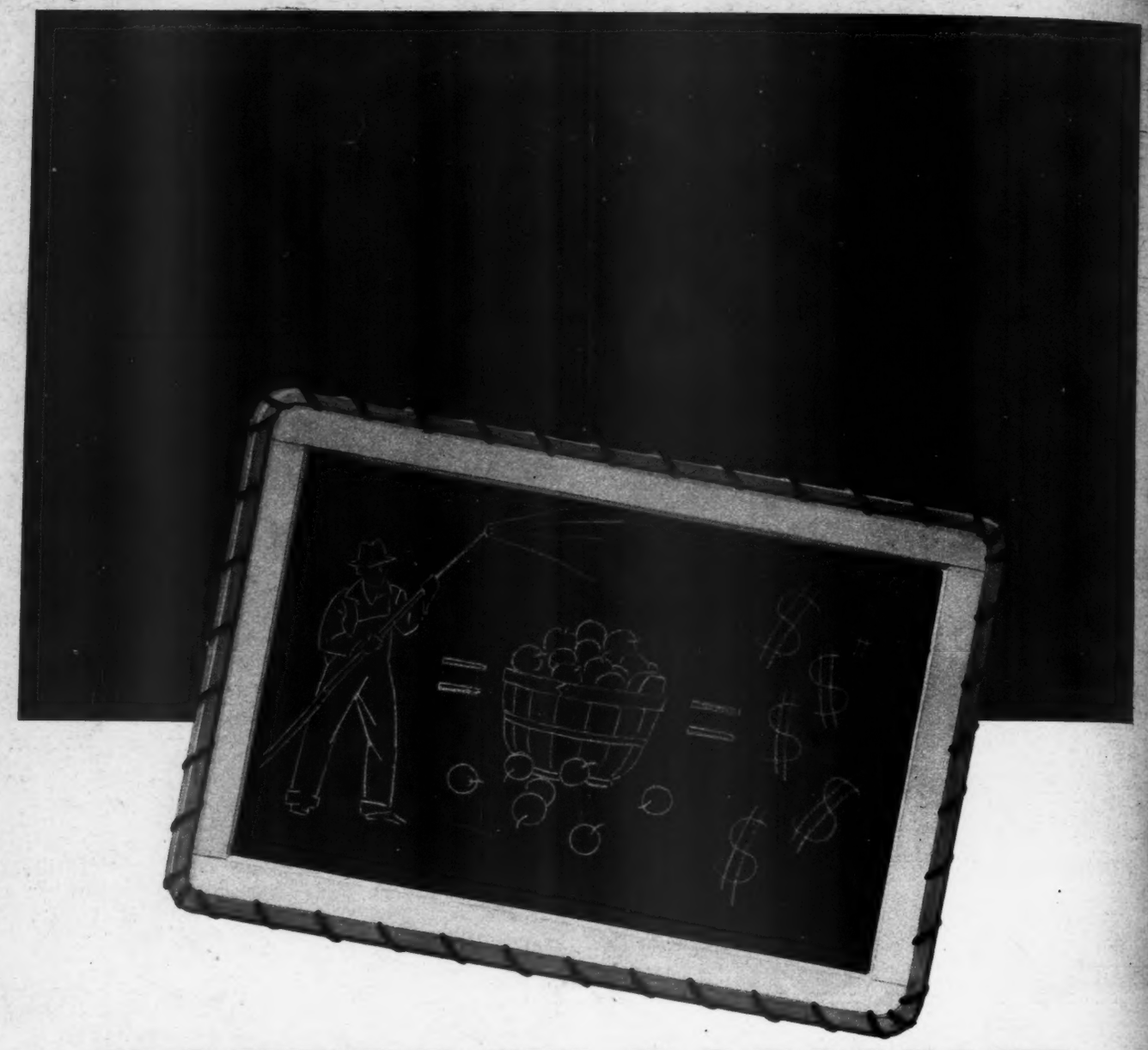
Send free, name of your nearest dealer and information on items checked.

| | | | |
|---|---|---|---|
| Power Sprayers | ☐ | Pump Jacks | ☐ |
| Hand Sprayers | ☐ | Sump Pumps | ☐ |
| Power Pumps | ☐ | Centrifugal Pumps | ☐ |
| Hand Pumps | ☐ | Hay Unloading Tools | ☐ |
| Water Systems | ☐ | Door Hangers | ☐ |

Name University of Idaho

Address LIBRARY MOSCOW, IDAHO

(SC-8)



# DOWSPRAY DORMANT

It's *actual* results that count. And based on experience, growers using Dowspray* Dormant are ahead in actual cash when the season ends.

Growers themselves have proven this fact. A typical record kept on Dowspray Dormant is conclusive beyond all question. Of two similar groups of trees, one was sprayed with Dowspray Dormant, while the other was left unsprayed.

Trees in both groups were checked by counting the apples. Those treated with Dowspray Dormant yielded nearly ninety per cent more salable fruit than those not sprayed. And the cost of using Dowspray Dormant to produce this nearly doubled yield was only 31 cents per tree—or approximately 1/2 cent per basket plus labor.

Compare the low cost of high yields obtained from using Dowspray Dormant in *your* orchards with the results from any other type dormant spray. They will convince you, too, that Dowspray Dormant gets the best results at minimum cost.

*Dowspray Dormant is effective against more insects than any other dormant spray available. Use it for control of rosy apple aphis, early green aphis, cherry aphis, San José scale, scurfy scale, bud moth, pear psylla and European red mite.*

*There Is a Dow Insecticide for Every Purpose*

THE DOW CHEMICAL COMPANY, MIDLAND, MICHIGAN

Branch Sales Offices: 30 Rockefeller Plaza, New York; Second and Madison Streets, St. Louis; Field Building, Chicago

TRADE MARK

*Trade Mark Reg. U. S. Pat. Office